

# **REGISTRATION GUIDANCE MANUAL FOR GENERATORS OF LIQUID INDUSTRIAL AND HAZARDOUS WASTE**

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**MINISTRY OF THE ENVIRONMENT**

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## GLOSSARY OF TERMS

The definitions marked by an asterisk (\*) mean that the term is not defined in Regulation 347. The following definitions are provided for guidance purposes only. If a term is defined in Regulation 347 but the full definition is not reproduced in this glossary, the description will include the words “is defined in Regulation 347.” Where a regulatory definition is followed by additional information for guidance purposes, the additional information appears in italics. Users of the Registration Guidance Manual for Generators of Liquid Industrial and Hazardous Waste (manual) should refer to Section 1 of Regulation 347 for all the definitions that are contained in the regulation.

**Aqueous Waste:** Waste that is aqueous and contains less than one per cent total organic carbon by weight, and less than one per cent total suspended solids by weight. *Concentration requirements for aqueous wastes are based on analysis of composite samples on a milligram per litre (mg/L) basis.*

**\*Biomedical Waste:** Waste that is generated from the health care sector and activities that may pose potential risks to public health, safety and the environment. Biomedical waste is defined in Guideline C-4: The Management of Biomedical Waste in Ontario, November 2009, as amended from time to time (Guideline C-4).

**Carrier:** The operator of a waste transportation system, *including any person who is engaged in the off-site transportation of waste by air, rail, road, highway or water.*

**\*Certificate of Approval (C of A):** A legal document that permits and controls how specific activities (e.g., waste management systems) may be carried out. The requirements set out in a C of A are binding on the holder, and enforceable under provincial legislation. Section 27 of the (EPA) states that “no person shall use, operate, establish, alter, enlarge or extend, a waste management system or a waste disposal site, unless a certificate of approval or provisional certificate of approval” that authorizes the activity has been issued by the Director. Unless otherwise noted, this manual uses the term C of A to refer to a waste certificate of approval or provisional certificate of approval issued under Part V of the EPA. For further information on a waste management C of A, please refer to the Ministry’s document entitled, “Protocol for Updating Certificates of Approval for Waste Management,” which can be accessed using the following link: <http://www.ene.gov.on.ca/envision/gp/5017e.pdf>.

**Characteristic Waste:** Hazardous waste that is corrosive waste, ignitable waste, leachate toxic waste, or reactive waste.

**Debris:** Solid waste that has a particle size of more than 60 millimetres, and includes material that remains with debris when simple mechanical means or simple physical means are used to separate material that is debris from material that is not debris.

**Debris Mixture:** A mixture of debris and other material where, based on visual inspection, the volume of the mixture is made up primarily of debris.

**\*De-characterized Waste:** Treated characteristic waste that no longer exhibits the characteristics of a corrosive waste, ignitable waste, leachate toxic waste, or reactive waste.

**Director:** The Director of the Waste Management Policy Branch of the Ministry (*Ministry of the Environment*) and includes an alternate named by him or her (*the Director*).

**\*Director's Letter of Equivalent Treatment:** A written approval that can be used solely to authorize a variance to the technology-based land disposal treatment requirements, based on a determination of equivalent treatment.

**Empty Container:** A container from which all wastes and other materials have been removed, using the removal practices such as pumping or pouring commonly used for the specific materials, which contains less than 2.5 centimetres of material on the bottom of the container.

**\*EPA:** Refers to the *Environmental Protection Act*, R.S.O. 1990, c. E. 19.

**Generator:** The operator of a waste generation facility. *This includes the original generator of the waste, as well as all subsequent generators that are involved in the chain of custody of the waste, such as a transfer station that receives waste and then ships it to another receiver. When the waste moves from the transfer station to another receiver, the transfer station is considered to be the generator for the subsequent shipment from its facility.*

**\*Generator Registration Document:** The information about waste generated at a waste generation facility that is posted on the Ministry's website.

**\*Generator Registration Fee:** Fee associated with the initial or annual GRR that consists of the following three components: the base fee, the manifest component and the tonnage component.

**\*Generator Registration Report (GRR):** The information provided to the Ministry on initial registration and every year after by the waste generator, either electronically or on paper, about the wastes generated at the waste generation facility.

**Hazardous Waste:** Hazardous waste is defined in Section 1 of Regulation 347. *The definition includes wastes that are characteristic waste, listed waste, pathological waste, PCB waste or radioactive waste. The definition also provides specific exclusions.*

**\*Hazardous Waste Number:** A four-character code (a letter followed by three numbers) used to identify individual listed wastes in Column 1 of Schedule 1, Part A and Part B of Schedule 2 and Schedule 3 of Regulation 347 and individual characteristic wastes in Column 1 of Schedule 5 of Regulation 347. These numbers are consistent with the United States Environmental Protection Agency's (USEPA) hazardous waste numbers. The Ministry assigned a hazardous waste number to the listed waste or characteristic waste if there was no USEPA hazardous waste number already available (see the E-series wastes in Schedule 5).

**\*HWIN List of Recycling Facilities:** The list of recycling facilities on the HWIN website (see <https://www.hwin.ca/hwin/oda/recyclers.jsp>). The processing of waste at these facilities to recover material for beneficial reuse does not meet the requirements of subsection 3 (2) of Regulation 347 for a recyclable material exemption. These facilities must have a Part V C of A (or equivalent in another jurisdiction) to process waste, and wastes sent to these facilities must be registered and manifested. However, the tonnage component of the generator registration fee is waived for shipments to facilities on the HWIN List of Recycling Facilities.

**\*Lab Pack:** An overpack container, usually a steel or fibre drum, that generally contains small quantities of chemicals, and where each waste is individually packaged and packed together into a common container.

**Land Disposal:** The deposit or disposal of waste upon, into, in or through land, including, the deposit of the waste at a dump, the landfilling of the waste, the discharge of the waste into a geological formation by means of a well and the landfarming of the waste, in the case of a petroleum refining waste, and land disposed has a corresponding meaning.

**\*Land Disposal Restrictions (LDR):** The requirements of Sections 74 through 85 of Regulation 347, which prohibit the disposal of hazardous wastes that are listed wastes or characteristic wastes until they have been treated to meet the land disposal treatment requirements.

**\*Land Disposal Treatment Requirements:** Identified in Schedule 1, Part A and Part B of Schedule 2 and Schedule 3 of Regulation 347 for listed wastes and in Schedule 5 of Regulation 347 for characteristic wastes. Land disposal treatment requirements are specified as either concentration-based numerical levels or as specified methods of treatment. Regulated constituents must be treated to meet the treatment requirements prior to land disposal.

**\*LDR Notification Form:** The LDR questionnaire in Part 2A of the GRR will indicate if Part 2B of the GRR needs to be completed for listed wastes or characteristic wastes. Part 2B is the LDR notification form and identifies the type of waste and treatment required or completed. Waste generators can use this form to meet their obligation to notify under the LDR program by providing it to the receiver of the waste.

**Liquid Industrial Waste (LIW):** LIW is defined in Section 1 of Regulation 347. *The regulatory definition provides specific exclusions.*

**Listed Waste:** Hazardous waste that is an acute hazardous waste chemical (*Part A of Schedule 2*), a hazardous industrial waste (*Schedule 1*), a hazardous waste chemical (*Part B of Schedule 2*), or a severely toxic waste (*Schedule 3*).

**Manifest:** A numbered document called a manifest that was obtained from the Ministry and includes a paper or electronic manifest (*e.g., that takes the form of a paper or electronic manifest*). *Manifests are required to ship subject waste off-site from a generator to a receiver.*

**\*Municipal Hazardous or Special Waste (MHSW) (formerly called Household Hazardous Waste (HHW)):** Domestic waste from a household that would be hazardous waste or LIW if it were produced by a commercial or industrial generator and waste from an industrial, commercial and institutional generator that, if it were produced in larger quantities, would meet the definition of hazardous waste or LIW. Examples of this type of waste include waste paints, solvents, used oils, batteries, items containing mercury, pharmaceutical wastes, unused cleaning products from homes, etc.

**\*Municipal Hazardous or Special Waste (MHSW) Depot:** A facility that accepts municipal hazardous or special waste from consumers. A MHSW depot has a valid C of A to accept MHSW, unless the facility is specifically exempt from this requirement. MHSW depots typically accept household wastes such as paints, solvents, used oils, batteries, mercury-containing items, etc. Some MHSW depots may also accept small quantities of waste from industrial, commercial and institutional (IC&I) waste generators.

**Non-aqueous Waste:** Waste that is not aqueous waste. *Concentration requirements for non-aqueous wastes are based on analysis of grab samples on a milligram per kilogram (mg/kg) basis.*

**\*North American Industry Classification System (NAICS) Code:** A six-digit industry classification numbering system that describes the nature of a business.

**\*On-site:** Management of waste at the location where the waste is generated. Waste may be processed or disposed of without leaving its point of generation. Specific provisions are included in Regulation 347 with respect to on-site waste management (see Section 17.1 and Section 17.2 of Regulation 347). Note: certain on-site disposal methods (e.g., landfill, landfarm or incineration) require a Part V C of A for a waste disposal site.

**\*Part 2B:** The LDR portion of the GRR, which must be completed by all generators of hazardous wastes that are listed wastes or characteristic wastes if the wastes are going to be land disposed. See also the definition of LDR notification form.

**Receiver:** The operator of any facility to which waste is transferred by a carrier. *This includes transfer stations, processing facilities and final disposal sites.*

**\*Recyclable Material:** Those wastes that meet the requirements of subsection 3 (2) of Regulation 347. Recyclable waste materials are exempt from Part V of the EPA and Regulation 347, and are not wastes that are sent to a facility on the HWIN List of Recycling Facilities.

**\*Regulated Constituents:** Any generic name or other description listed in the regulated constituent column in Schedule 1, Part A and Part B of Schedule 2 and Schedules 3, 5 and 6 of Regulation 347. All regulated constituents in a listed waste or characteristic waste must meet the treatment requirements before land disposal.

**\*Regulation 347:** Refers to Regulation 347 of the Revised Regulations of Ontario, 1990 (General – Waste Management) made under the EPA.

**\*Remediation Waste:** Waste generated during the clean up of contaminated sites. Such wastes are not generated during the course of normal industrial or manufacturing operations, but rather are the result of spills of hazardous waste, or product chemicals, or through historical management practices.

**Section 39 Director:** A Director appointed by *the Minister* under Section 5 of the *EPA* for the purposes of Section 39 of the Act, *allowing the Director to issue a Certificate of Approval.*

**Site:** A site means one property and includes nearby properties owned or leased by the same person where passage from one property to another involves crossing, but not travelling along, a public highway.

**\*Small Quantity Exemption (SQE):** An exemption provided for some waste types under the definitions of hazardous waste and LIW. The exempted quantities vary, and depend on the specific waste characterization. Accordingly, this exemption cannot be determined until the waste has been evaluated and the waste characterization established. Although the SQE quantities of waste are exempt from generator registration and manifesting requirements, the small quantity is still waste, and must be transported by an approved waste carrier and disposed of at an approved waste receiver.

**\*Small Quantity Generator (SQG):** An operator of a waste generation facility that produces a total of less than 100 kg of hazardous waste chemicals, hazardous industrial wastes, plus characteristic wastes, in any given month. Section 80 of Regulation 347 outlines special provisions for small quantity waste generators with respect to LDR requirements and the conditions that must be met.

**\*Soil:** In this manual soil is unconsolidated earth material composing the superficial geologic strata (material overlying bedrock) consisting of clay, silt, sand or gravel size particles.

**Soil Mixture:** Includes a mixture of soil and liquids, sludges or solids, where, (a) the mixture cannot be separated by simple mechanical removal processes; and (b) based on visual inspection, the volume of the mixture is made up primarily of soil or other finely divided material that is similar to soil.

**\*Specific Gravity:** The ratio of the weight or mass of a given volume of substance to that of an equal volume of another substance (water for liquids and solids).

**Subject Waste:** A term defined in Section 1 of Regulation 347. *Subject waste means hazardous waste and LIW, as well as waste that was characteristic waste but that has been treated so that it is no longer characteristic waste if the waste may not be disposed of by land disposal under subsection 79 (1). However, the definition of “subject waste” does not include a number of wastes, including intact waste batteries that are destined for a waste battery recovery facility and waste from the professional office of a member of the Royal College of Dental Surgeons of Ontario. See subsection 1 (3) of Regulation 347 for a complete list. The term is used in a number of sections of Regulation 347, such as the generator registration and manifesting sections.*

**Thermal Treatment:** Includes incineration, gasification, pyrolysis or plasma arc treatment. *Thermal treatment is not considered processing.*

**Toxicity Characteristic Leaching Procedure (TCLP):** This term is defined in Section 1 of Regulation 347. *This procedure is an analytical test method that is used to identify whether a waste exhibits the characteristic of leachate toxicity, and to measure compliance with treatment standards.*

**\*Underlying Hazardous Constituent (UHC):** A regulated constituent of a characteristic waste identified in Schedule 6 of Regulation 347, which, if present, must be treated to meet land disposal treatment requirements, but nonetheless does not cause the waste to exhibit a hazardous waste characteristic.

**\*Waste Characterization (formerly referred to as Waste Characteristic):** Identified by a single letter that indicates the type of hazardous waste or LIW it contains, based on the chemical characteristics or source of a waste material. The waste characterization identifies the hazard associated with the waste. A waste may have more than one waste characterization.

**\*Waste Class:** A three-digit number assigned to a generic waste description used to classify the type of waste being managed. Waste classes are included in the C of A for waste carriers and receivers, to identify the waste streams that they are permitted to handle or manage. A list of Ontario waste classes can be found in Appendix B of this manual.

**Waste Generation Facility:** Those facilities, equipment, and operations that are involved in the production, collection, handling or storage of waste at a site.

**\*Waste Number:** The combination of the three-digit waste class and the single-letter primary waste characterization used to classify a waste stream for generator registration and manifesting purposes.

## LIST OF ACRONYMS

ASTM	American Society for Testing and Materials
CAS #	Chemical Abstracts Service Registry Number
C of A	Certificate of Approval
CEPA	<i>Canadian Environmental Protection Act (Canada)</i>
EAA	<i>Environmental Assessment Act</i>
EPA	<i>Environmental Protection Act</i>
GRR	Generator Registration Report
HWIN	Hazardous Waste Information Network
IC&I	Industrial, Commercial and Institutional (Generators)
LDR	Land Disposal Restrictions
LIW	Liquid Industrial Waste
MHSW	Municipal Hazardous or Special Waste
MOE	Ministry of the Environment
NAICS	North American Industry Classification System
OWRA	<i>Ontario Water Resources Act</i>
PCB	Polychlorinated Biphenyls
S.	Section of Regulation 347
SQE	Small Quantity Exemption (Waste)
SQG	Small Quantity Generator
TCLP	Toxicity Characteristic Leaching Procedure
TDGA	<i>Transportation of Dangerous Goods Act (Canada)</i>
UHC	Underlying Hazardous Constituent
USEPA	United States Environmental Protection Agency
WDA	<i>Waste Diversion Act, 2002</i>
WEEE	Waste Electrical and Electronic Equipment



## 1 IMPORTANT CHANGES TO THE MANUAL FOR WASTE GENERATORS

Several changes have been made to this manual since the last update. The highlights of the changes are as follows:

- The manual updates the Ministry of the Environment's guidance on who needs to register. It also provides an overview of Ontario's hazardous waste management rules and the new requirements for generators, carriers and receivers of subject waste.
- The former term, "waste characteristic," has been changed to "waste characterization." This change in terminology updates and aligns Ontario's terminology with that used by the United States Environmental Protection Agency (USEPA).
- The manual now includes the amendments to Regulation 347 that put in place a land disposal restrictions (LDR) program. Under these rules, listed wastes and characteristic wastes that are to be land disposed must first be treated to meet specific land disposal treatment requirements. The updated manual describes how the LDR requirements affect the registration process, and provides information on the program, including reporting, notification, record-keeping, waste analysis and land disposal treatment requirements for hazardous waste. For more detailed information on the LDR program, please also consult the Land Disposal Restrictions (LDR) Handbook (handbook) on the Ministry's website at <http://www.ene.gov.on.ca/en/land/hazardouswaste/hazardouswaste.php>.
- This manual has been revised to include new flow charts that are designed to help generators determine whether they need to register. As well, the updated manual includes a section that explains Ontario's LDR requirements, and how to determine if they apply to a generator's waste stream.
- Regulation 347 contains a number of descriptive schedules that list various hazardous wastes. These schedules have been updated to reflect the recent changes that relate to the province's LDR program. The updated lists in the schedules now contain not only the hazardous waste number and waste description, but also the regulated constituents and their corresponding LDR treatment standards.
- The manual also identifies the new requirements for on-site processing of wastes that are subject to the LDR rules. For example, the LDR program includes additional treatment, notification and record-keeping requirements for wastes that are processed on-site. It also requires generators to register subject wastes which are no longer hazardous, but which need further treatment to meet the land disposal treatment requirements.
- Ontario's new LDR program is being phased in, and the updated manual provides the phase-in schedule for the new requirements in detail. The phase-in schedule is as follows:
  - Storage, mixing and on-site processing approval requirements began March 31, 2006
  - New generator registration requirements began January 1, 2007
  - The phase-in period for the land disposal treatment requirements is from August 31, 2007 to December 31, 2009.

- The updated manual also explains a number of other regulatory amendments to Regulation 347 that are designed to improve the management of subject wastes. The requirements outlined below may apply not only to generators that are subject to LDR requirements, but also to all waste generation facilities that are used primarily for activities other than waste management. This will depend on the type of wastes generated (non-hazardous and hazardous) and the waste activities conducted on-site.
  - Mixing, blending and bulking of wastes
    - To improve the management of wastes, Regulation 347 now prohibits the mixing of hazardous wastes with other wastes or materials for purposes other than processing. This new provision may affect hazardous waste generators, carriers and receivers, unless this activity is authorized by a certificate of approval (C of A) issued under Part V of the *Environmental Protection Act* (EPA). The provision also ensures that dilution cannot be used to avoid meeting the new LDR treatment standards.
  - On-site storage of subject wastes
    - The regulation now contains notification, management, and record-keeping requirements for wastes that are stored on-site at a waste generation facility for more than 90 days.
    - A Certificate of Approval is required for wastes stored on-site for more than two years.
  - On-site processing of wastes
    - The regulation describes when approvals are required and when approvals are not required when generators are processing wastes on-site. These regulatory changes do not introduce new requirements, but rather clarify existing practices to ensure consistency with respect to on-site processing.
- The revised manual clarifies current practices to improve waste management and to ensure greater consistency across the province.
- The manual has also been improved by including the following items:
  - The Hazardous Waste Information Network (HWIN) List of Recycling Facilities – an explanation of this list, how it works and how a company becomes listed
  - A discussion on how to determine the appropriate waste classes for generator waste streams
  - Information about on-line registration through HWIN
  - A discussion on manifesting.
- The revised, expanded manual now contains additional information on waste management practices in Ontario.
- The manual has also been updated to include additional amendments to Regulation 347 that were made since the last revision, including:
  - The enhancement of the corrosive waste definition to include solids, except for solid incinerator ash or fly-ash from a woodwaste combustor site, and solid wastes (e.g., grits, dregs, lime wastes) generated by a manufacturer of pulp, paper, recycled paper, corrugated cardboard or other paper products.
  - The inclusion of sewage works outside Ontario as part of the exemption of pickle liquor as a treatment chemical from Part V of the EPA (i.e., when used as a recyclable material).

- An amendment to facilitate waste recycling, the use of alternative fuels and new or emerging waste technologies through streamlined approvals processes.
  - An amendment to facilitate the proper management of wastes from field operations. Field operations include activities or services that are performed by companies or the public sector as part of their regular duties at remote sites and from equipment servicing and construction, spill clean-up and mobile health care. In general, wastes generated from a field operation can be transported to a local waste transfer site without a C of A. Generator registration at the field site and manifesting from the site are also not required.
- Appendix G of the manual includes questions and answers about the new requirements for generator registration.
  - To simplify the electronic use of this manual, hyperlinks have been included in the updated format.

## 2 INTRODUCTION

Ontario has a comprehensive legislative and regulatory framework in place to ensure that hazardous waste and liquid industrial waste (LIW) are managed in an environmentally safe manner. This framework — consisting of the EPA and regulations under the EPA, including Regulation 347 — provides the Ministry of the Environment (MOE) with the authority to regulate and enforce the management of hazardous waste and LIW throughout the province.

Regulation 347 defines hazardous waste through a listing and testing approach that is similar to the one used by the USEPA. Generators of subject wastes are required to register by submitting a generator registration report (GRR) every year between January 1 and February 15 and to pay an associated generator registration fee. Information about the generator registration fee is provided in 4.1 of this manual. The generator registration process provides MOE with information that enables it to develop computerized waste profiles that promote effective waste monitoring and control.

This manual has been prepared to help waste generators comply with the generator registration requirements of Regulation 347. Under this regulation, waste generators are required to evaluate their wastes and, if the wastes are determined to be a subject waste, to submit a GRR to the MOE. Under Ontario law, it is a provincial offence to store, process, dispose or transport hazardous waste or LIW unless a generator registration document for the generator has been posted on the HWIN. HWIN can be accessed through the Ministry's website at [www.ene.gov.on.ca](http://www.ene.gov.on.ca).

Out-of-province waste generators who transport or dispose of liquid industrial or hazardous wastes in Ontario must also register their wastes with MOE. Carriers or receivers are not permitted to accept these wastes from any out-of-province generator for whom a generator registration document has not been posted on HWIN.

In 2005, amendments to Regulation 347 implemented Ontario's LDR program for hazardous wastes. The LDR program affects hazardous waste generators and the waste management industry that treats and processes all hazardous wastes that are to be land disposed. The amendments to the regulation require hazardous wastes to be treated before being land disposed in Ontario. The LDR program and associated regulatory amendments were phased in, with the first changes taking effect March 31, 2006, revised reporting requirements for hazardous waste generators becoming effective on January 1, 2007, and the first treatment standards taking effect on August 31, 2007. All remaining LDR requirements are effective on December 31, 2009.

The registration of subject wastes takes place in two steps:

**Step 1: Determine whether or not you need to register your waste.** The manual provides a flowchart with explanations to help you determine whether or not you need to register your waste. After using the flowchart, you may determine that your wastes are not subject to the registration requirements of Regulation 347, and you do not need to take any further action. However, if you determine that your wastes are subject to the regulation's registration requirements, you are required by law to register your site and each of the wastes in it with the Ministry.

**Step 2: Complete and submit the annual Generator Registration Report (GRR).** To help you complete and submit these reports, the manual explains each line of the report and the information that must be entered. Generators can complete and submit the registration either electronically, on the Internet, or on paper. Electronic registration is handled through the HWIN site ([www.hwin.ca](http://www.hwin.ca)). MOE's

Hazardous Waste Rules and Regulations page

(<http://www.ene.gov.on.ca/en/land/hazardouswaste/hazardouswaste.php>) contains a blank GRR, which you can copy and use for registration.

Please note that you must submit your annual Generator Registration Fee along with your GRR. The Ministry may review the report after you have filed it.

Please also note that this manual should be used in conjunction with Regulation 347 as certain provisions of the regulation require compliance with the manual. The following provisions of Regulation 347 require compliance with or refer to the manual:

- Subsections 18 (2) and (7.2)
- Subsection 19 (1)
- Subsection 21 (1)
- Subsections 23 (2), (2.1), (3), and (5)
- Subsections 24 (4) and (4.1)
- Subsection 25 (7)
- Subsections 80 (2) and (3).

The manual has also been prepared to help you interpret and comply with the requirements of the regulation. And although some sections of the manual are referenced in Regulation 347, you should always refer to the Regulation itself for exact legal requirements, wording and interpretation. You should also use the handbook in conjunction with this manual, to better understand the responsibilities and regulatory requirements for hazardous waste generators, processors, transporters and receivers under the LDR program.

### **3 GENERATOR REGISTRATION PROCESS**

#### **3.1 How to Determine if Registration is Required**

Waste generators need to determine if the wastes they produce or accumulate are subject to Ontario's registration requirements. This section of the manual provides a systematic approach to reaching this determination, using detailed flowcharts and explanations. It also explains how to determine the waste characterizations and corresponding waste class that must be entered on the GRR for each waste stream.

##### **3.1.1 Who is a Generator?**

Regulation 347 defines a generator as the operator of a waste generation facility. A waste generation facility is defined to mean facilities, equipment and operations that are involved in the production, collection, handling and storage of waste at a site. The definition of generator would include operators of commercial and manufacturing facilities that produce wastes, as well as operators of waste disposal, transfer, bulking or processing facilities that forward materials off-site for subsequent waste management.

A receiver of subject waste (such as a transfer station or processing facility) becomes a waste generator by managing the waste, and is, therefore, subject to the generator registration requirements that are outlined in this section. Receivers of non-subject waste may also become waste generators by managing the waste that they receive. For example, municipal hazardous or special waste (MHSW) depots receive waste that is not subject waste from domestic sources, and later ship the collected waste for disposal. As a result, MHSW depots are subject to the province's generator registration requirements. These facilities must therefore characterize the waste they collect, and ensure that any waste that is either hazardous waste or LIW is appropriately managed.

##### **3.1.2 What is a Waste?**

Wastes are defined in the EPA, and Regulation 347 also designates specific wastes. Waste includes all materials that are normally considered waste — such as ashes, garbage, domestic waste, industrial waste, commercial waste, construction debris and residues from industrial and commercial activities. Economic value is not a reliable indicator of whether or not a material is a waste. For example, while some waste materials are sold for their heating value, or otherwise reused, recycled, recovered or reclaimed — they are still wastes under Ontario law, and must be managed appropriately.

All outputs from waste transfer, bulking, or processing facilities are considered to be wastes. Such outputs include oil that is recovered from oily water treatment facilities, and blended or bulked waste solvents that are destined either for disposal or recycling. Commercial waste chemicals that either are or contain a commercial chemical product or by-product, including those that are off-specification or that have exceeded their expiry date, are also considered to be wastes.

By contrast, by-products or intermediates from a series of traditional metal refining operations, such as mineral or metal recovery, are not considered to be wastes. For example, sludges from an electrolytic recovery process for metals, such as nickel, which are later processed to remove precious metals such as silver, are not considered to be wastes.

Section 2 of Regulation 347 designates a number of materials as waste. Section 3 of Regulation 347 sets out a number of requirements that, when met, exempt certain wastes from the requirements of Part V of the EPA and Regulation 347. However, **these materials are still wastes**, and must be managed with care.

To ensure that your hazardous waste and LIW are being managed appropriately, you should therefore familiarize yourself with the EPA and Regulation 347 in particular, along with the amendments that implement the Land Disposal Restriction requirements.

### **3.1.3 Determining When Waste is Generated**

To determine when a waste has been generated, generators need to consider the point at which their process ends. In the case of listed wastes, determining when a waste has been generated can usually be accomplished by following the descriptions of wastes provided in the detailed schedules of Regulation 347. All wastes that meet the descriptions in these schedules are considered to have been generated, and must therefore be handled as hazardous wastes. In the case of wastes that are not listed in the schedules, the waste is considered to have been generated after the process is completed — for example, at the end of a manufacturing process, or at the last stage of any process that generates the waste. Once the process has been completed and the wastes have been collected, the generator must classify them properly according to the regulation.

When a material may be a subject waste, but is still in use or in equipment that, by its nature, is designed to capture and hold material until the equipment is serviced, the material is not yet considered to be a subject waste. The material is only a subject waste when the generator removes it from the equipment — for example, when waste oil is collected during the servicing of equipment, or when dust is removed from vacuum equipment or a baghouse.

Regulation 347 requires generators to keep each waste stream separate and to characterize it individually before determining whether or not the wastes can be mixed. For example, if a manufacturing process has three waste streams that exit the system from three different pipes, each of the three waste streams must be characterized to identify whether it is hazardous, and to determine if Ontario's land disposal restriction (LDR) requirements apply. This must be done before the generator can determine if any of the three waste streams may be mixed or combined into a single collection vessel. Determining whether the LDR requirements apply must occur at the point of generation, to prevent the waste from being diluted and thus avoiding proper treatment.

A generated waste may be characterized as either a hazardous waste or LIW. The characterization depends on the various definitions for hazardous waste and LIW in Regulation 347, and the small quantity exemptions provided for each type of waste. Most wastes become either hazardous waste or LIW when the generator accumulates them in an amount that is equal to or greater than the small quantity exemption (SQE) amount for the waste. Section 5.5 of the manual provides detailed information about SQE for each type of hazardous waste and LIW.

Depending on the types of wastes generated at a facility, Regulation 347 may restrict generators from mixing and processing them. This is particularly important with wastes that are required to meet the province's land disposal treatment requirements. Restrictions on mixing of waste with other wastes or materials are discussed in 6.1 of the manual.

### 3.1.4 What is a Hazardous Waste?

Hazardous wastes are wastes that, when present in quantities and concentrations that are high enough, pose a threat to human health or the environment if they are improperly stored, transported, treated or disposed. Accordingly, hazardous wastes require special handling and management. To manage hazardous wastes appropriately, there must be systematic control of how they are collected, stored, transported, treated, recovered and disposed.

Improper management or disposal of hazardous wastes can have a direct or indirect impact on many aspects of the environment, human health and the economy. For example, improper waste disposal practices or leachate from landfills that are not designed to accept these wastes may contaminate ground water and surface water.

While Ontario's industrial and manufacturing sectors generate most hazardous wastes, the commercial and institutional sectors, as well as individual households, also generate significant quantities of hazardous waste. Most of the hazardous wastes covered by Regulation 347 are identified through a listing and testing approach.

Hazardous wastes include:

- Listed wastes:
  - Listed wastes include specific waste streams and wastes from industrial processes, waste chemicals and severely toxic wastes. A listed waste is defined in Regulation 347 as a hazardous waste that is (a) an acute hazardous waste chemical (Part A of Schedule 2), (b) a hazardous industrial waste (Schedule 1), (c) a hazardous waste chemical (Part B of Schedule 2), or (d) severely toxic waste (Schedule 3). These schedules of Regulation 347 identify the listed wastes and their associated treatment requirements.
- Characteristic wastes:
  - Characteristic wastes are identified through testing. Characteristic waste is defined in Regulation 347 as hazardous waste that is (a) corrosive waste, (b) ignitable waste, (c) leachate toxic waste, or (d) reactive waste. Schedule 5 of Regulation 347 identifies the characteristic wastes and their associated treatment requirements.
- Pathological wastes:
  - Pathological wastes include human and animal remains and other non-anatomical waste that is infected with a communicable disease. Pathological wastes are included in the biomedical waste definition in Guideline C-4, which provides best management practices to generators, carriers and receivers of biomedical waste and is available at <http://www.ene.gov.on.ca/en/land/hazardouswaste/hazardouswaste.php>.
- PCB wastes:
  - PCB waste has the same meaning as in Regulation 362 and includes PCB equipment, PCB liquid or PCB material.
- Radioactive wastes:
  - Radioactive waste — except radioisotope wastes that are produced as part of the nuclear fuel cycle and are disposed of in a landfill site in accordance with the written instructions of the Canadian Nuclear Safety Commission, formerly the Atomic Energy Control Board — is considered to be hazardous waste. The Ministry of the Environment regulates radioactive waste



that contains naturally occurring radioactive material on a case-by-case basis. Generators of radioactive waste should contact the Ministry for further information on the appropriate management of waste that contains naturally occurring radioactive material (NORM).

#### **3.1.4.1 What are the mixture and derived-from rules for hazardous waste?**

The mixture and derived-from rules apply to listed wastes, pathological wastes and radioactive wastes.

**The Mixture Rule** — The mixture rule states that a listed waste, pathological waste or radioactive waste that is mixed with any other waste or material retains its waste characterization, even if it is processed at an approved facility, unless the C of A for the facility specifically states otherwise. For example, if a hazardous industrial waste listed in Schedule 1 of Regulation 347 (i.e., a listed waste) is mixed with a non-hazardous waste, the mixture is considered to be a listed waste, and must be managed accordingly. The mixture rule is designed to provide an incentive for generators to segregate different waste types, while helping to prevent the dilution of a specified hazardous waste to alter its primary characterization.

**The Derived-from Rule** — Under the derived-from rule, a waste is considered to be derived from a listed waste, pathological waste or radioactive waste if the waste is blended, stabilized, processed or disposed. A waste that is subject to the derived-from rule therefore retains its hazardous waste characterization even if it is processed at an approved facility, unless the C of A for the facility specifically states that the resulting waste no longer retains the original hazardous waste characterization. For example, a listed waste (e.g., a Schedule 1 hazardous industrial waste) that has been processed to reduce its toxicity and any residual from the processing are both considered to be listed wastes after they have been treated, and must be disposed of at an approved hazardous waste facility.

The intent of the mixture and derived-from rules is to prevent the mixing or processing of a waste so that it no longer meets the original definition of hazardous waste, without addressing its hazardous constituents. Any waste that is mixed with one of these hazardous wastes retains its waste classification, and must continue to be managed appropriately as a hazardous waste. Please note, however, that the mixture and derived-from rules do not apply to PCB waste or characteristic waste.

Regulation 347 also contains provisions for waste generators, carriers and receivers that specifically prevent the mixing, blending, bulking or intermingling of hazardous wastes with any other wastes or materials. These activities are permitted only under certain conditions, or if they are authorized by the conditions of a C of A. In general, hazardous wastes that are not similar in nature (e.g., solids and liquids) and that do not have the same waste number (i.e., the same waste class and waste characterization) cannot be mixed. Section 6.1 of this manual discusses the limitations on mixing that apply to all hazardous wastes in more detail.

The details of these provisions, as they relate to activities that take place at the waste generation site, are presented in 6.1.3.1 of this manual. The provisions identify the conditions under which mixing, blending, bulking or intermingling of hazardous wastes is permitted at the waste generator's facility. The restrictions are most stringent for wastes that are subject to the LDR requirements. There are also specific provisions for carriers and receivers (see 6.1.4 of the manual). Please note that these restrictions apply only to hazardous wastes, and that Regulation 347 does not prevent the mixing, blending, bulking or intermingling of LIW with similar wastes.

Generators should also note that Regulation 347 contains provisions that exclude some wastes from the derived-from rule. These provisions include exemptions specified in the regulation (in Schedules 1.1, 2.1, and 2.2 of Regulation 347), through the formal de-listing process, or through a C of A.

### **3.1.4.2 How to de-list a hazardous listed waste**

A generator or receiver can submit an application to the Ministry to de-list or review the status of a listed waste. Most wastes from specific sources are listed because of the toxicity of the waste's constituents. However, a listed waste may no longer exhibit hazardous characteristics if a facility uses or processes raw materials differently from the industrial processes that were considered when the listing was developed. These exclusions may be approved if the waste does not have characteristics that are similar to the characteristics of the waste from which it was derived.

An application to de-list a hazardous waste that is a listed waste must include the results of comprehensive testing and analysis to demonstrate that the waste does not meet any of the criteria for which it was originally listed, or exhibit other hazardous properties or hazardous constituents at significant levels. De-listing applications are subject to a technical evaluation by the Ministry as well as public consultation. It should be emphasized here that this type of review pertains only to a specific waste from a specific facility. Further details on de-listing can be found in Guideline C-16-1 "Guidance Manual for Hazardous Waste Categorization and Review, Volume B, Guidance Manual for the Review of Wastes Listed in Regulation 347," which is available in the Publications section of the Ministry's website at [www.ene.gov.on.ca](http://www.ene.gov.on.ca). This guideline also covers the listing process for hazardous wastes.

In certain cases, listed wastes that have been treated may be disposed of in a non-hazardous waste facility, provided that a C of A has been issued stating that in the opinion of the Section 39 Director (i.e., for approvals purposes), the waste that is produced in accordance with the C of A does not have characteristics similar to the characteristics of the hazardous waste from which it was derived and provided that the treated waste is also not a characteristic waste. In such cases, the treated listed waste is no longer considered to be a listed waste, since the Section 39 Director has determined that the derived-from rule does not apply. The determination that a waste is no longer a listed waste is based on the same principles used to de-list a hazardous waste through the regulatory de-listing process.

Listed wastes and characteristic wastes may be subject to the land disposal restrictions. Further information on the LDR program is provided in 5 of this manual.

### **3.1.5 What is a Liquid Industrial Waste (LIW)?**

LIW are wastes from industrial or commercial sources that are liquid waste, but not hazardous waste. For registration purposes, the criterion for determining whether a waste is liquid is the slump test, which is set out in Schedule 9 of Regulation 347 (see also Appendix A of this manual).

While LIW must be registered with the MOE, they are not subject to the same level of regulation as hazardous wastes. For example, the mixture and derived-from rules do not apply to LIW. Moreover, while LIW must be managed at an approved facility, they are not subject to land disposal restrictions. Please see 3.2.1 of this manual for information about exemptions from the definition of LIW.

### **3.1.6 Special Cases**

#### Remediation Waste

Industrial sites may become contaminated through spills of hazardous waste or product chemicals, or through historical management practices. Wastes that are generated when such sites are being decontaminated are called remediation wastes.

In general, the strict application of the mixture and derived-from rules is not appropriate for remediation wastes. Typically, the remediation waste generated at contaminated sites is in the form of large quantities of soil or a soil mixture that contain relatively low concentrations of chemicals. Moreover, it is often difficult to determine if a listed waste has contaminated a soil or a soil mixture, because remediation waste is often the product of the historical activities carried out at a facility. Strictly applying the mixture and derived-from rules to a soil or a soil mixture at contaminated sites could result in many tonnes of a soil or a soil mixture being classified as hazardous waste, despite the fact that these wastes generally have low concentrations of chemicals and pose little real threat to health or the environment. In addition, managing a soil or a soil mixture as a listed waste would also act as a significant disincentive to site remediation. For these reasons, a soil or a soil mixture or a debris or a debris mixture generated during remediation activities is normally identified as hazardous waste only if it exhibits a hazardous waste characterization other than the listed waste characterizations.

This approach does not apply, however, to a soil or a soil mixture that is known to have been contaminated by a listed waste due to an immediate spill or other activity. In such cases, the resulting waste must always be managed at a hazardous waste facility, since the derived-from rule applies.

Contaminated soils can present health or environmental risks if they are not properly handled and disposed of, and remediation wastes must be characterized to determine if they exhibit any characteristics of hazardous waste. If a remediation waste is determined to be hazardous, it is subject to the requirements of Regulation 347, including the requirements of the LDR program.

The LDR provisions in Regulation 347 do not apply to contaminated soils during the course of on-site remediation activities. However, the LDR requirements do apply to a soil or a soil mixture when it is managed as a waste, including on-site or off-site land disposal of the waste. For information on the land disposal treatment requirements for a soil or a soil mixture that is a listed waste or characteristic waste, please see 5.7.1 of this manual.

#### Waste that is Debris

A debris or a debris mixture can include glass, metal, plastic, brick, concrete, wood and other, similar materials that are produced during site remediation or building demolition. A debris or a debris mixture that is considered to be hazardous waste may be contaminated with either a listed waste or a characteristic waste. As with remediation waste, if a debris or a debris mixture is known to have been contaminated by a listed waste, it must be managed in accordance with the rules for the listed waste with which it is contaminated. However, where the source of contamination is due to historical practices at a site, and a debris or a debris mixture is not known to have been contaminated by a listed waste, the debris or debris mixture is only considered to be hazardous if it exhibits a hazardous waste characterization other than the listed waste characterizations.

If a debris or a debris mixture is a listed waste or a characteristic waste and is being land disposed, it is subject to LDR requirements and must be treated to meet the treatment standards. For more information on the treatment standards for a debris or a debris mixture that is a hazardous waste see 5.7.2 of this manual.

### **3.1.7 What is a Subject Waste?**

Subject waste is a term used to identify the types of wastes that must be registered with the ministry. The movement of these wastes must be tracked through HWIN. Carriers and receivers of subject wastes must meet the requirements of Part V of the EPA, as well as Regulation 347.

Subject waste means hazardous waste, LIW and waste that was characteristic but that has been treated so that it is no longer characteristic waste, if the waste may not be disposed of by land disposal under subsection 79 (1).

Wastes that may be subject wastes on or after December 31, 2009 are wastes that have been de-characterized so that they no longer exhibit the characteristics of a corrosive waste, ignitable waste, leachate toxic waste, or reactive waste. But these wastes cannot be land disposed because they need further treatment to meet the land disposal treatment requirements for additional regulated constituents that are listed in Schedule 6 of Regulation 347.

As a result, on or after December 31, 2009, de-characterized wastes that have other regulated constituents at concentrations that are at or above the treatment requirements in Schedule 6 and cannot be land disposed, remain a subject waste, and the generator is required to register it. De-characterized wastes that do not have other regulated constituents, or that have regulated constituents at concentrations that meet the treatment requirements and can therefore be land disposed, are not considered to be subject wastes. As a result, the generator is not required to register these wastes.

Some specific wastes are exempted from the definition of subject waste and are therefore exempt from the registration and manifesting requirements that apply to other hazardous wastes and LIWs. The exemptions to the definition of subject waste are discussed in the next section of the manual.

## **3.2 Exemptions**

### **3.2.1 Exemptions available through Definitions, Section 1 of Regulation 347**

Regulation 347 contains a number of provisions that exempt certain waste streams from the definitions of hazardous waste, LIW, or subject waste (see Section 1 of Regulation 347 for definitions), or from the sections of the regulation that apply to generator registration and manifesting. Exempted wastes do not have to be registered or manifested. However, while these exempted wastes are not subject to registration and manifesting, they must be managed appropriately, and transported and disposed of by approved carriers and receivers (i.e., companies and facilities that are approved for the type of waste being carried or received). Please note that for hazardous waste and LIW exclusions, the wastes must generally be characterized before it can be determined whether or not they are exempt from registration.

#### **3.2.1.1 Hazardous Waste and Liquid Industrial Waste Definitions**

The definitions of hazardous waste and LIW in Section 1 of Regulation 347 specify that certain wastes are excluded from these definitions. While such materials are still considered to be wastes, the requirements for registration and manifesting do not apply. In some cases, other regulatory requirements must be met in order for a waste to be excluded from a definition.

(a) *Hauled Sewage*

Hauled sewage, generically referred to as septage, is exempt from the definitions of LIW and hazardous waste. Hauled sewage (also known as septage) refers to waste from portable toilets, holding tanks, septic and aerobic systems that are regulated under Part 8 of the Ontario Building Code (OBC). This exemption applies to waste suitable for storage, treatment or disposal in a sewage system regulated under Part 8 that is not disposed of at the site where it is produced. However, the exemption does not include waste from a sewage works approved under Section 53 of the *Ontario Water Resources Act* (OWRA), where the waste is transferred by a sewer, or waste from a vehicle's holding tank. Septage haulers are exempt from registration with the Ministry. However, they must obtain a waste management system C of A for the purposes of transporting the waste. The land application of septage requires a waste disposal site C of A. However, as of January 1, 2011, treated septage may also be land-applied under a Non-Agricultural Source Materials (NASM) Plan approved by the Ministry of Agriculture, Food and Rural Affairs and issued under the *Nutrient Management Act's, 2002, General Nutrient Management Regulation*.

(b) *Sewage Sludge*

Wastes from municipally owned sewage works, Crown-owned sewage works or sewage works owned by the Ontario Clean Water Agency (OCWA) under an agreement with a municipality and approved under the OWRA, are also exempt from the definitions of LIW and hazardous waste. Wastes from privately owned sewage works that only receive wastes that are similar in character to domestic sewage, not including industrial sewage, are also exempt. Sewage sludge refers to raw, untreated municipal wastewater solids. Treated sewage sludge is referred to as sewage biosolids, which are nutrient-rich organic materials. Haulers of sewage biosolids are exempt from registration, but must obtain a waste management system C of A for the purposes of transportation. The land application of sewage biosolids currently requires an organic soil conditioning site C of A. However, as of January 1, 2011, no new organic soil conditioning Certificates of Approval will be issued for sewage biosolids that are to be applied on agricultural land. After this date, the material must be land-applied under a NASM Plan approved by the Ministry of Agriculture, Food and Rural Affairs and issued under the *Nutrient Management Act's, 2002, General Nutrient Management Regulation*.

(c) *Domestic Wastes*

Household wastes are exempt from the definitions of LIW and hazardous waste. Once a household waste is collected at a MHSW depot, however, the exemption no longer applies if it is characterized as a hazardous waste or LIW, and the waste becomes subject to generator registration and manifesting requirements. This exemption applies only to domestic waste from households, and does not include waste from institutions, hotels, motels, etc.

(d) *Incinerator Ash*

Incinerator ash (bottom ash) resulting from the incineration of waste that is neither hazardous waste nor LIW is exempt from the definition of hazardous waste. Incinerator ash does not include fly ash. Incinerator ash is defined as ash residue that contains less than 10 per cent combustible material by weight.

(e) *Small Quantities Exemption (SQE)*

The regulation provides exemptions for some types of SQE waste under the definitions of LIW and hazardous waste. The exempted quantities vary, depending on the characterization of the specific waste. As a result, the exemption cannot be confirmed until the waste has been evaluated and the primary waste characterization established. Small quantity exemptions are discussed below under the explanations dealing with each waste characterization (explanations 1-9, 11, 12). Although small quantities of a waste may be considered non-hazardous, and thus exempt from generator registration and manifesting requirements, the small quantity is still considered to be waste, and must be transported by an appropriately approved waste carrier and disposed of at an approved facility.

(f) *Empty Containers or Liners*

Depending on the characterization of the material they once contained, empty containers or inner liners may or may not be exempt from registration and manifesting under the definition of hazardous waste. As with SQE waste, the exemption for empty containers or liners cannot be determined until the waste has been evaluated, and the primary waste characterization has been established. Empty container and inner liner exemptions are discussed below under the explanations dealing with each hazardous characterization (explanations 1-9, 11).

Regulation 347 defines an “empty container” as a container from which wastes and other materials have been removed, using common removal practices such as pumping or pouring, and which contains less than 2.5 centimetres of material on the bottom of the container.

(g) *Exemptions that are Specific to LIW*

The following wastes are only exempt from the definition of LIW; they do not apply to hazardous wastes.

- i) Discharges to sanitary sewers  
Wastes or wastewater discharged directly by a generator to a sanitary sewer (either municipally owned or privately owned) that is located at the waste generation site

Please note: The discharge to sanitary sewer exemption **does not** apply to hazardous wastes!

- ii) Waste that results directly from food processing and preparation operations (Food processing and preparation operations include food packing, food preserving, wine making, cheese making and restaurants.)
- iii) Waste from the operation of a water works subject to the *OWRA*
- iv) Drilling fluids and produced waters associated with the exploration, development or production of crude oil or natural gas
- v) Processed organic waste  
(Processed organic waste includes waste that is predominantly organic in composition and has been treated by aerobic or anaerobic digestion, or another means of stabilization, and includes residue from sewage works that are subject to the provisions of *OWRA*.)
- vi) Asbestos waste.

### 3.2.1.2 Subject Waste Definition

The definition of subject waste in Section 1 of Regulation 347 specifies wastes that are excluded from the definition, which can be found in subsection 1 (3). Wastes that are excluded from the definition of subject waste do not require registration or manifesting with the Ministry but are still wastes that:

- i) may still meet the definitions of hazardous waste or LIW
- ii) must be managed or disposed of at an appropriately approved facility
- iii) when transported, must be shipped with an appropriately approved carrier.

Please note that some of the exclusions have specific requirements that must be met in order for the waste to be excluded from the definition.

(a) *Retail Motor Vehicle Service Station or Service Facility Wastes*

Wastes resulting from the servicing of motor vehicles at retail motor vehicle service stations or service facilities are excluded from the definition of subject waste.

Please note: This exemption is limited to retail motor vehicle service stations or service facilities that have a valid written agreement for the collection and management of their wastes from the servicing of motor vehicles with a waste management system that is approved under Part V of the EPA to haul the hazardous waste or LIW off-site.

A retail motor vehicle service station or servicing facility provides services to the public for any type of motor vehicle (e.g., public vehicle). Facilities that meet these requirements may include gasoline service stations, automotive repair garages, car washes and service centres at automobile dealerships, auto body shops that are open to the public, marinas that service boats for the public, and farm equipment dealers that perform retail servicing. Facilities used by organizations to service their own fleet vehicles — such as government, utilities, bus, transport, rent-a-car or heavy equipment companies — do not qualify for the exemption unless they provide retail services as the primary function of their business.

This exemption only applies to subject waste from the servicing of motor vehicles. Such wastes can include used lubricating oil, service station interceptor waste, water pump-out from underground storage tanks, waste batteries, waste antifreeze, liquid waste paints and waste solvents. However, please note that the exemption does not apply to wastes generated by activities that are not associated with the servicing of motor vehicles (e.g., site remediation waste).

A Ministry guideline entitled, “C-11-1 Procedures for the Handling and Disposal of Selected Wastes from Retail Motor Vehicle Servicing Facilities,” has been developed to address the appropriate management of these wastes. The guideline can be viewed on the Ministry’s website at <http://www.ene.gov.on.ca/envision/gp/C11-1.pdf>. The guideline provides further information about managing the wastes that are typically generated at these facilities and the details that must be included in the written agreement referred to above.

(b) *Waste from:*

- i) a nursing home as defined under the *Nursing Homes Act*
- ii) a home as defined under the *Homes for the Aged and Rest Homes Act*
- iii) a home for special care as defined under the *Homes for Special Care Act*
- iv) the professional office of a member of the Royal College of Dental Surgeons of Ontario
- v) the professional office of a member of the College of Physicians and Surgeons of Ontario.

The wastes that are excluded from the subject waste definition under (iv) and (v) above are wastes that are solely from a single doctor’s office or single dentist’s office. Wastes that are consolidated from multiple doctors’ or dentists’ offices (e.g., professional offices in a medical or dental building) are not excluded from the subject waste definition.

Waste from the facilities described above that are not subject waste, but are hazardous waste or LIW, must be handled at approved facilities.

(c) *Intact waste batteries*

Damaged, spent, worn out or discarded intact electric batteries that are destined for waste battery recovery facilities are excluded from the definition of subject waste. A “waste battery recovery facility” is a site at which intact waste batteries are received for recovery of battery components and there is no disposal of intact waste batteries or of recovered battery components.

(d) *Common mercury waste*

Common mercury waste that is destined for a common mercury waste recovery facility is excluded from the definition of subject waste.

“Common mercury waste” means,

- i) electrical switches, thermostats or fluorescent lamps that contain mercury and that are damaged, worn out or discarded
- ii) thermometers, barometers or other measuring devices that contain mercury and that are damaged, worn out or discarded
- iii) discarded material that contains mercury from dental procedures carried out by a member of the Royal College of Dental Surgeons of Ontario.

A “common mercury waste recovery facility” is a site at which common mercury waste is received for recovery of mercury and, where there is no disposal of common mercury waste or mercury.

(e) *Waste electrical and electronic equipment (WEEE)*

Intact WEEE that is destined for a site for the recovery of materials is excluded from the definition of subject waste. WEEE has the same meaning as in Ontario Regulation 393/04 (Waste Electrical and Electronic Equipment) made under the *Waste Diversion Act, 2002*, and includes common items such as televisions, computers, printers and fax machines.

(f) *Printed circuit boards*

Intact waste printed circuit boards that are destined for a site, where they will be processed for the recovery of materials, are excluded from the definition of subject waste.

### **3.2.2 Exemptions from Part V of the EPA and Regulation 347, Section 3 of Regulation 347**

Section 3 of Regulation 347 identifies wastes that are exempt from Part V of the EPA and Regulation 347. Although these materials are considered to be wastes, they are not subject to generator registration and manifesting, as long as they meet the Section 3 requirements. Please note that there are sites that receive these wastes but do not meet the Section 3 requirements. These sites are waste management operations that require a Part V approval, even though some or all of the waste is processed for recovery or reclamation.

The wastes in Section 3 that are exempted from the requirements of both Part V of the EPA and Regulation 347 are listed below. Please note that the full text of Section 3 is not included here, and that this section also addresses wastes that are neither hazardous waste nor LIW. The Section 3 exemptions include:

- (a) Agricultural wastes
- (b) i) Inedible material within the meaning of Ontario Regulation 31/05 (Meat) made under the *Food Safety and Quality Act, 2001*.
- (b) ii) Any material that is condemned or derived from a carcass at a registered establishment within the meaning of the *Meat Inspection Act* (Canada).
- (c) Dead farm animals within the meaning of Ontario Regulation 106/09 (Disposal of Dead Farm Animals) made under the *Nutrient Management Act, 2002* or regulated dead animals within the meaning of Ontario Regulation 105/09 (Disposal of Deadstock) made under the *Food Safety and Quality Act, 2001*.
- (d) Inert fill
- (e) Rock fill or mill tailings from a mine.



With respect to hazardous waste and LIW, the following *may* be exempt from the requirements of both Part V of the EPA and Regulation 347.

Items (f) through (n) are discussed in more detail below, including definitions of some of the terms used. Please note that for certain exemptions to apply, there are documentation requirements that need to be met. These are described under Documentation Requirements for Specific Section 3 Exemptions at the end of this section. If you have a waste stream and are unsure if it meets any of the Section 3 recyclable material exemptions, please contact the Ministry for assistance.

Generic Recyclable Material Exemption – Item (f), (covered in paragraph 1 of subsection 3 (2) of Regulation 347)

- (f) Municipal waste, hazardous waste or LIW, other than used, shredded or chipped tires, that is transferred by a generator for direct transportation to a site, and that is:
  - i) to be wholly used at a site in an ongoing agricultural, commercial, manufacturing or industrial process or operation that is principally used for functions other than waste management, if the process or operation does not involve combustion or land application of the waste.
  - ii) to be promptly packaged for retail sale, to meet a realistic market demand
  - iii) to be offered for retail sale to meet a realistic market demand.

In every sense, the waste described in (f) above can be used as raw material, and as such is exempt from registration and manifesting requirements and all other provisions of Regulation 347 and Part V of the EPA. To qualify for this exemption, the waste must be used completely, either in a process or operation whose function is *not* waste management, or be taken directly for retail sale or prompt packaging before retail sale.

While “wholly” has not been defined, it means that all of the wastes must enter the process or operation. If the waste is used as a substitute for virgin material and is processed in the same unit as virgin material, it is exempt. For example, if lead dross is fed with lead concentrate into a sintering plant before smelting, the waste meets the requirement for this exemption. Minor modifications to the wastes, such as incidental sedimentation in storage tanks where treatment is not intended, may be acceptable. However, major pre-processing (e.g., calcining, roasting, sintering) of the waste on its own before it is used is not permissible in this exemption. For example, the breaking of lead acid batteries before the battery lead is fed into a smelter is not exempt.

In most cases, it is possible to determine whether or not the function of a process is for waste management by reviewing the viability of the process if the waste were not available. Processes or operations that are not viable without the incoming wastes are considered to be in the business of waste management. If only waste is being used in the process, and no virgin materials are used, the facility is considered a waste management operation, and therefore requires the appropriate waste approvals. For example, an oily water treatment facility is not viable without oily water. The facility is thus considered to be a waste management facility, and the oily water does not meet the requirements of the exemption described in subsection 3 (2).

By contrast, a metal degreasing operation can continue to operate without waste solvents. The supply of waste solvents is simply an alternative that is substituted for virgin solvents to obtain an economic benefit. Facility operators should be aware that the use of a waste as a substitute reagent (for example a re-hydrating agent) in a process that is recognized as waste management does not make the waste exempt in accordance with subsection 3 (2).

The difference between ongoing manufacturing operations and waste management activities can also be illustrated through the example of recycling metal-bearing wastes. In the primary metal industry, where ores or concentrates are processed, metal-bearing wastes may be fed into the smelter operation in the same process as the ores or concentrates for metal recovery. In this case, the metal-bearing wastes are considered to meet the requirements of the subsection 3 (2) exemption. However, in the secondary metal industry, where wastes are the only feedstock for the recovery of metal at the facility, the operation is considered to be engaging in waste management. In this case, the metal-bearing wastes do not meet the requirements of the general recyclable material exemption in subsection 3 (2).

Processes that combust waste or apply waste to land are not included in the exemptions described in Section 3, and thus would not meet the recyclable material requirements described above.

Waste that is packaged “as is” without any processing before packaging is considered to be “promptly packaged.” If a waste is broadly available for purchase by interested consumers, it is considered to be offered for retail sale. However, this does not mean that the waste is available for purchase by a manufacturer as a raw material.

Specific Recyclable Material Exemptions – Items (g) to (n), (covered in paragraphs 6 to 13 of subsection 3 (2) of Regulation 347)

- (g) Pickle liquor transferred by a generator for direct transportation to a site at which it is to be wholly utilized as a treatment chemical in:
  - i) a sewage works that is subject to the OWRA
  - ii) a sewage works outside Ontario, if the utilization of pickle liquor for this purpose is acceptable to the environmental regulatory authority in the jurisdiction where the sewage works is located, or
  - iii) a wastewater treatment facility that discharges into a sanitary sewer.
- (h) Solid photographic waste that contains silver, including spent chemical recovery cartridges that contain silver, when the waste is transferred by a generator and destined for a site at which it is to be processed for the recovery of silver.
- (i) Waste paint or waste coatings transferred by a generator and destined for a site at which the waste is to be used in an ongoing manufacturing process for the production of paint or coatings, if the process does not involve combustion of the waste and the paint or coatings that are produced are not used as fuel.
- (j) Emission control dust from the primary production of steel in electric furnaces, if the dust is transferred by a generator for direct transportation to a site at which it is to be used as a feedstock in an ongoing high-temperature metal recovery process in a rotary kiln, flame reactor, electric furnace, plasma arc furnace, slag reactor, industrial furnace or combination of a rotary hearth furnace and electric furnace.
- (k) Spent activated carbon transferred by a generator for direct transportation to a site at which it is to be used in a process to reactivate activated carbon.
- (l) Metal-bearing waste, other than lead acid batteries or aqueous waste, that is transferred by a generator for direct transportation to a smelter at which the waste is to be used as a feedstock in an ongoing operation for the recovery of metal—including waste that, for the purpose of being used as a feedstock, is processed through size reduction, blending, calcining, roasting, sintering, drying, pelletizing, cleaning, leaching or separation of solids from liquids, but not including waste that, for the purpose of being used as a feedstock, is processed in any other manner.
- (m) Printed circuit boards that are waste and that are transferred by a generator and destined for a smelter at which they are to be used as a feedstock in an ongoing operation for the recovery of metal.

- (n) Waste that is to be processed and used at the same site at which it is generated, if:
  - i) neither the processing nor the use of the waste involves combustion or land application of the waste, and
  - ii) the waste is not PCB waste, PCB soil or a PCB soil mixture.

The specific Section 3 exemptions that are listed in items (g) to (n) above are waste management processes that do not fit the generic recyclable material exemption. However, the Ministry wishes to promote these recycling activities, and when these wastes are managed as described, they are exempt from Part V of the EPA and Regulation 347, including generator registration requirements.

“Direct” transportation for generic and specific recyclable material exemptions means that the waste must go directly from the generator to the end user. In such cases, no intermediate transfers may take place while the waste is on the way to the recycling site.

By contrast, waste that is “destined” to go to a recycling site for generic and specific recyclable material exemptions means that the waste can go indirectly from the generator to the end user. Intermediate transfers can take place while the waste is en route to the recycling site. However, no processing, except bulking for transporting purposes, may take place at the intermediate sites.

#### Documentation Requirements for Specific Section 3 Exemptions

In order to maintain the validity of the exemptions that require direct transportation (i.e. f(i), g, j, k, and l above), the carrier must also comply with Section 3 (3) of Regulation 347. The carrier must have in his or her possession a document from the owner or operator of the site to which the material is being transported, and this document must:

- i) indicate that the owner or operator of the site agrees to accept the material
- ii) specify the use that will be made of the material, and
- iii) stipulate that the transported material is being shipped to an ongoing process or operation that is currently in operation, if the exemption refers to an ongoing process or operation.

For the exemptions that stipulate “destined” (i.e., (h) and (i) above) to be valid, the above requirements are also required for the carrier and any owner or operator of any transfer station at which the material is collected, handled, stored or transferred before reaching the site to which the material is destined. No processing is permitted at any intermediate site.

### **3.2.3 Exemption for Selected Waste Depots**

Sections 43 through 60 of Regulation 347 provide the regulatory requirements for selected waste depots. If a facility meets the regulatory requirements, it is exempt from generator registration and manifesting, and does not need a C of A for a waste disposal site.

The purpose of a selected waste depot is to provide a location for consumers to return selected wastes to a retail facility for proper management (e.g., when “do-it-yourself” oil change waste is returned to a facility that sells oil). Only businesses that sell goods or service motor vehicles as one of their primary functions can set up a selected waste depot to take back wastes generated from selected products that are regularly sold at the business. The depot must be located at the business site and managed by the person who owns or has the charge, management or control of the business. Selected wastes that can be accepted at a depot include waste anti-freeze, waste oil filters, and waste lubricants (crankcase oil, gear oil, transmission fluid and hydraulic fluid).

A business that sets up a selected waste depot in accordance with the regulation must also follow the operating standards set out in the regulation. Meeting the standards allows the selected wastes from the “Do-It-Yourself” consumer and small quantity-exempt generator to be returned to retailers and service stations without waste management system (carrier) requirements for the generator, waste disposal site (receiver) requirements for the depot, and generator registration and manifesting requirements for the depot when the selected wastes are being shipped off-site.

Since these wastes are hazardous waste or LIW, the depot must therefore ensure that these wastes are managed by approved facilities.

Selected Waste Depots must have one or more valid written agreements with a waste management system that has been approved under Part V of the EPA to accept the selected wastes and have them hauled off-site.

An example of a selected waste depot could include a retail business that sells goods to the public, in which anti-freeze and oil products are among those goods. This facility has the option of setting up a selected waste depot on-site that accepts waste anti-freeze and waste oil from consumers. The wastes may be collected on-site, and then sent for appropriate management at an approved facility, using an approved waste hauler.

### **3.2.4 Exemption for Field Operations**

Sections 29.1 to 29.5 of Regulation 347 provide the regulatory requirements for field operations. Field operations are activities or services that are performed by companies (or a public sector agency) and are part of their regular duties. Wastes that are generated from carrying out these activities or services require proper management. If the activity or service is not performed, the waste would not be generated.

A field operation activity or service must take place away from the company’s normal place of business (i.e., at a “remote site”), either on property owned by the company or on the property of another company that authorizes the activity or service to take place. If a company (or public sector agency) goes to a “remote site” and wishes to manage a waste that has already been generated (i.e., not from the activity or service that is to be performed) then it is not considered a field operation.

The field operations provisions eliminate the need for carrier and transfer station C of A in certain special situations. Generator registration and manifest requirements are also removed. In general, wastes generated from a field operation can be transported to a facility referred to as a local waste transfer site without the need for generator registration at the field site or a manifest to transport the waste from the field site. Neither the carrier nor local waste transfer site needs to obtain a C of A.

These exemptions are intended for operations that generate waste but are located in places that make it difficult to comply with the waste management requirements previously mentioned. Examples include: locations that are very remote or difficult to access and where, for example, mining and exploratory work takes place; operations that take place away from a permanent site, such as servicing manholes or pole-top transformers; or operations such as carpet cleaning or elevator repair that are performed on behalf of another company but away from the operator’s base of operation.

Field operations are not intended for companies that provide waste management services or for operations that generate waste on-site as part of their normal business. It includes conditions and restrictions that allow companies to consolidate wastes at a specific location, at which the registration, manifesting and approvals requirements apply.

### 3.3 Overview of Waste Streams Requiring Generator Registration

Generators are required to register subject wastes that are generated at a facility, even if the wastes are not being shipped off-site. Figure 3.1 identifies the most common waste streams and situations that require registration with the Ministry. The figure is included in the manual to provide an overview of waste management activities that affect generator registration. To determine if your specific waste stream must be registered, you will need to follow the process outlined in Figure 3.2—including characterizing the waste and determining whether Ontario’s land disposal restrictions apply.

The final determination of whether you need to register your waste stream is based on the waste characterization, whether the LDR requirements apply and how the waste will ultimately be managed.

A detailed explanation for each of the situations shown in Figure 3.1 is provided below.

#### 1. *Waste Shipped Off-Site*

Any subject waste that is transported off-site must be registered with the Ministry. This requirement includes any subject waste hauled to an off-site waste management facility, wastes that are sent to a facility on the HWIN List of Recycling Facilities, and liquids that are transported to an off-site OWRA-approved facility.

#### 2. *Off-Site Waste Management Facilities*

A characteristic waste that is subject to the LDR requirements and treated on-site so that it has been de-characterized after treatment but remains a subject waste (i.e., the waste cannot be land disposed because the regulated constituents in Schedule 6 of Regulation 347 do not meet the treatment requirements on or after December 31, 2009), must be registered before it is hauled to an off-site waste management facility. A characteristic waste that is subject to the LDR requirements and fully treated on-site (i.e., de-characterized and the regulated constituents in Schedule 6 meet the treatment requirements) is no longer a subject waste and registration is not required when it is hauled off-site for disposal.

#### 3. *On-site Processing of Listed wastes or Characteristic Wastes that are Subject to LDR*

When subject wastes are processed on-site and the processed waste or residual from the waste processing remains a subject waste, the province’s registration requirements apply, and the generator must prepare a waste analysis plan as outlined in Section 85 of Regulation 347.

If the on-site processed waste or residual from the waste processing is not a subject waste, registration is not required, but a waste analysis plan as outlined in Section 85 of Regulation 347 is required, and records must be maintained for LDR purposes. Generators must also provide notification to the receiver to meet the LDR requirements for treated characteristic wastes (i.e., wastes that can be land disposed under Section 79) when they are disposed off-site. Please see Section 84 of Regulation 347 and 5.8 of this manual for further details.

#### **4.     *On-site Processing of wastes that are not subject to LDR***

Wastes that are managed by other on-site processes, such as bulking or blending operations, do not need to be registered prior to processing, if the waste is not subject to land disposal restrictions. However, subject wastes (including any residues) that are subsequently hauled off-site must be registered. Wastes that are bulked or blended and returned to an on-site process operation do not require registration.

#### **5.     *On-Site Waste Disposal***

All subject wastes that are disposed of at an on-site waste management facility must be registered with the Ministry. Examples of on-site disposal include thermal treatment such as incineration, on-site combustion such as boilers or space heaters, landfilling, landfarming and use of a waste-derived fuel. Any residues that are subject waste must also be registered. Please note that thermal treatment is not considered processing.

#### **6.     *OWRA-Approved Wastewater Treatment – Final Stage Only***

For OWRA-approved wastewater treatment processes, registration is only required for all of the independent hazardous discharges to the final stage of the OWRA-approved wastewater treatment facility. Wastes discharged to intermediate stages in the overall process do not require registration. Discharges from the final OWRA-approved treatment facility to a watercourse do not need to be registered. If the waste is subject waste, sludges and skimmed waste from the OWRA-approved treatment facility must be registered. For wastewater treatment processes that are not OWRA-approved, see explanations 3 and 4 above on processing.

#### **7.     *Discharge to Municipal Sanitary Sewers***

Hazardous wastes discharged to a municipal sanitary sewer must be registered. A generator that discharges hazardous wastes into a drain that leads to a municipal sewer must register each hazardous waste being discharged. Laboratory facilities, such as educational, research and quality control laboratories, are required to estimate the types and quantities of hazardous wastes that are disposed of in this manner, and to ensure that they are registered appropriately.

Generators should also note that discharges of hazardous waste to sanitary sewers are permitted only in accordance with municipal by-laws governing sewer use.

#### **8.     *Off-Site Water Pollution Control Plants***

All hazardous wastes and LIW hauled off-site to an OWRA-approved Water Pollution Control Plant (WPCP) must be registered with the Ministry. By contrast, wastewater discharges from an OWRA-approved WPCP to a watercourse do not need to be registered. Similarly, residues that are produced through the treatment process do not need to be registered, provided that a municipality, the Crown or the Ontario Clean Water Agency under an agreement with a municipality, owns the WPCP.

#### **9.     *On-Site Storage***

All subject wastes must be registered at the point of generation. Therefore, all subject wastes stored at a waste generation facility must be registered with the Ministry. Storage of subject waste for more than two years also requires a C of A.

Subject wastes that are stored for more than 90 days but less than two years must be stored in accordance with the requirements of Section 17.2 of Regulation 347, and the Ministry's Regional Director must be informed about the storage of the waste. A Notice of the Storage of Subject Waste form is available on the Ministry's Hazardous Rules and Regulations page on the internet, at <http://www.ene.gov.on.ca/en/land/hazardouswaste/hazardouswaste.php>.

Wastes that are stored for more than 90 days but less than two years must be registered every year for as long as the waste is being produced but should not be registered as on-site storage. Rather, the waste should be registered according to how it will be managed (e.g., off-site shipment). PCB waste storage sites must also be registered as on-site storage.

When a generator registers a waste that is being stored on-site, the C of A number or the PCB storage site approval number must be provided, as applicable.

Final disposal sites can also be waste generating facilities, if the residues or discharges from the facilities are subject wastes.

### **3.4 Determining Registration and Other Regulatory Requirements**

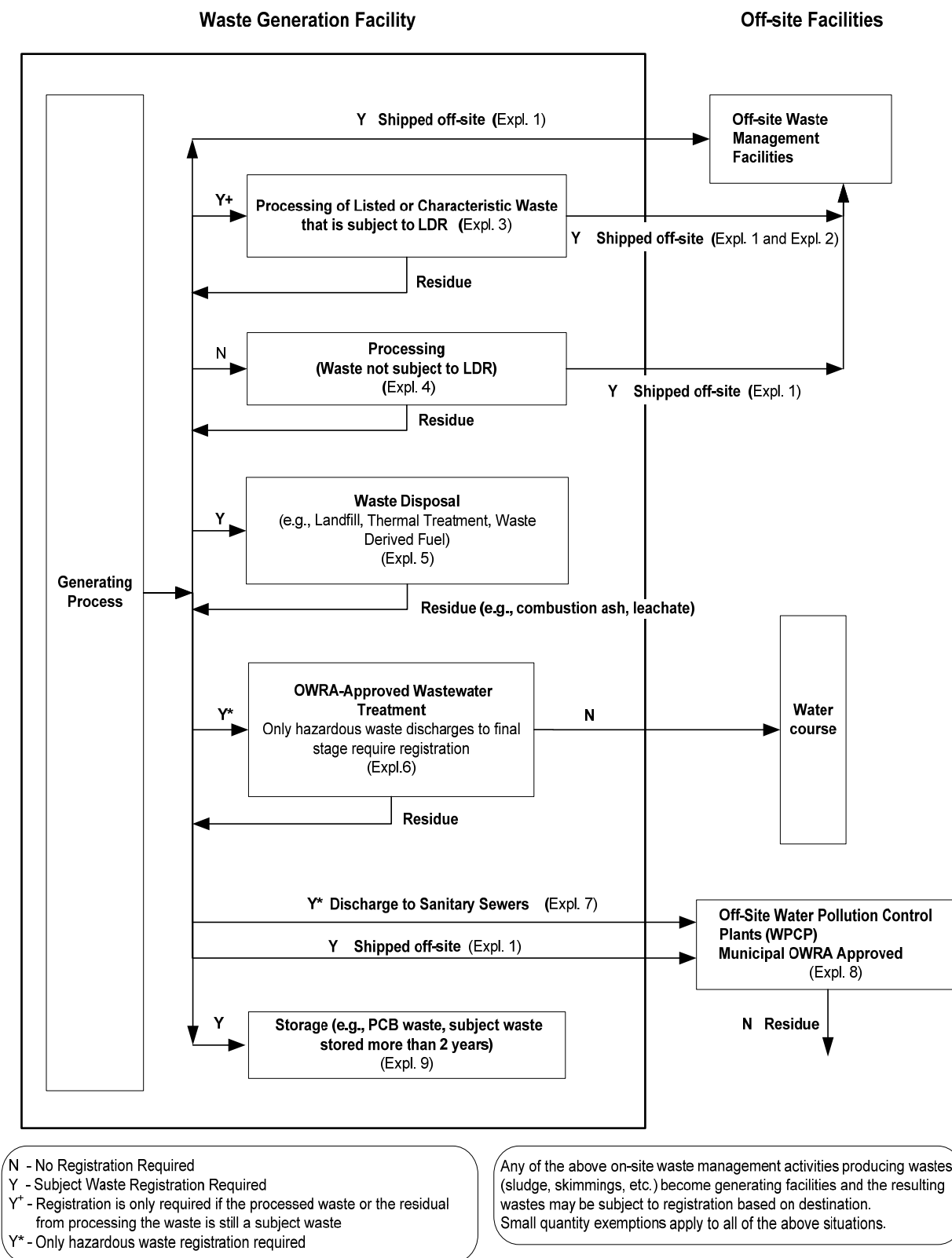
The Ministry has developed a number of flowcharts to guide generators through the process of determining whether they need to register their waste, and to help them identify other regulatory requirements related to registration. With the implementation of Ontario's LDR program, generators need to know if the LDR requirements apply to their wastes, since this will have a bearing on the generator registration process. Figure 3.2 identifies the steps that generators should follow to determine if they need to register their waste, and whether there are other regulatory provisions that require them to provide additional information.

The first step in determining whether registration is required is to determine whether you generate waste, and if so, whether your waste is subject to any registration exemptions or exclusions.

The generation of waste and the legislative and regulatory provisions that may exempt specific wastes from some regulatory requirements (e.g., registration) are discussed earlier in this section of the manual. Table 3.1 summarizes the exemptions discussed in 3.2 of this manual along with exemptions from the generator registration requirement through exemptions in the definitions of subject waste, hazardous waste, and LIW (please see 3.2.1 of this manual).

If you are a generator and your waste qualifies for any of these exemptions, including any associated regulatory requirements that make your waste eligible for the exemption, generator registration is not required. By contrast, if your waste does not meet the exemption requirements, you need to characterize your waste (please see 3.5, Figure 3.3 of this manual). In the case of both hazardous waste and LIW, you cannot determine whether your waste is exempt from registration under the definitions outlined above until you have characterized the waste.

**Figure 3.1 Overview of Waste Streams Requiring Generator Registration**





The waste characterization process is outlined in 3.5 of this manual. After completing this process, you need to determine whether the LDR requirements apply for the purposes of registration (see 3.6, Figure 3.4 of this manual). This determination will lead you either to Figure 3.5 or 3.6 of this manual, which will enable you to confirm whether registration is required, and help you identify any other associated regulatory requirements.

Once you have confirmed that your waste requires registration, you will need to identify the appropriate waste class. Guidance on this process is provided in 3.7 of the manual. Section 1 above of the manual provides additional information on managing your waste, along with the main regulatory requirements that are associated with different waste management options.

### **3.5 Determining the Characterization of your Waste Stream**

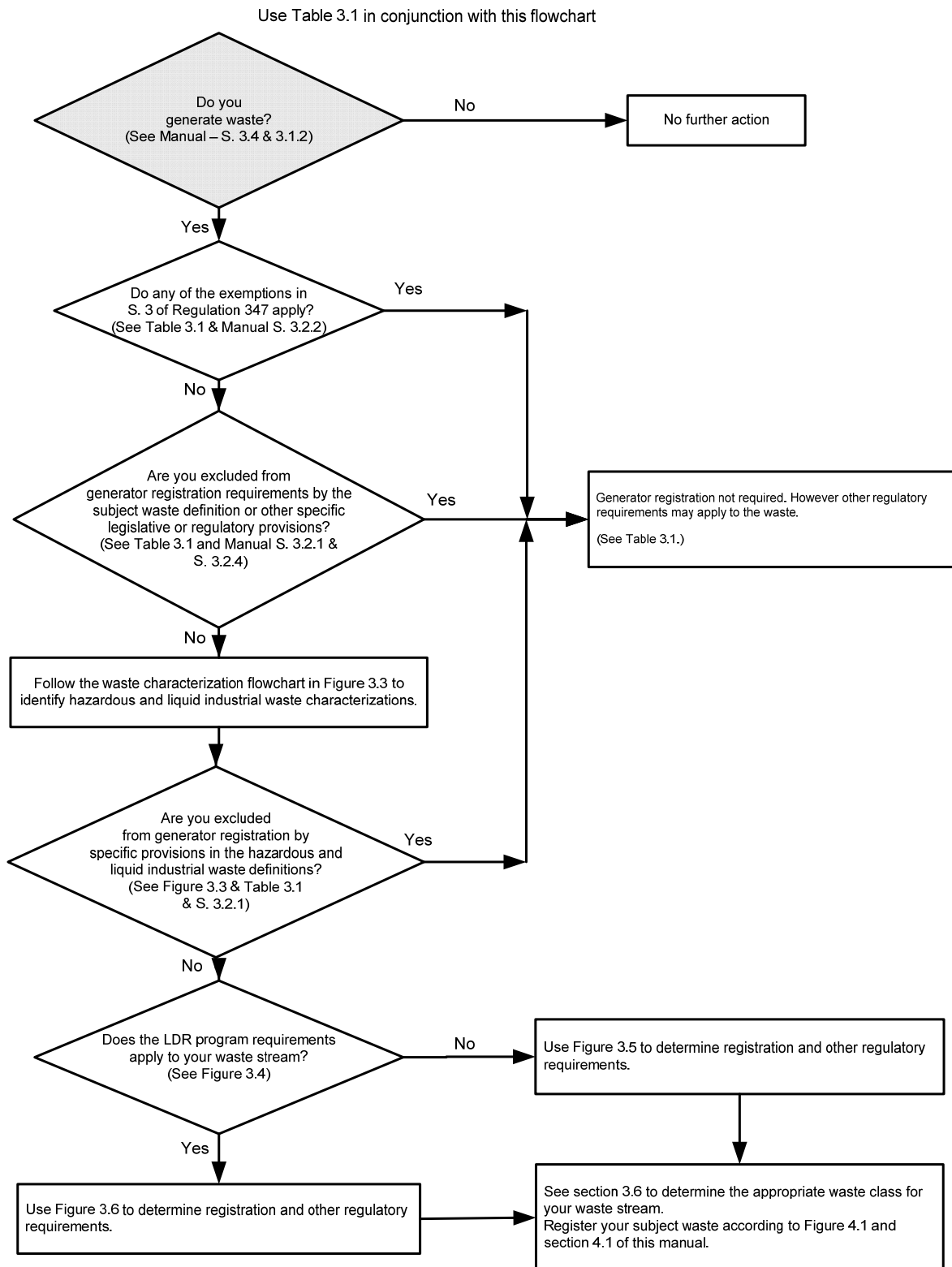
This section of the manual is designed to help generators determine if their waste meets the criteria for hazardous waste or LIW. The first step in determining the characterization of your waste is to identify any constituents in the waste that could make it hazardous. This can be done through a combination of testing and applying the generator's own knowledge of the waste stream, and is discussed in more detail in 3.5.1 below.

The second step in the process of waste characterization is to determine whether registration is required, as outlined in the waste characterization flowchart (Figure 3.3). This figure will help you identify those waste characterizations that are primary and those that are secondary.

You should also ensure that you follow the waste characterization flowchart and associated explanations through to completion, to ensure that you have identified all of your subject wastes. At the same time, you will need to identify the appropriate waste class for each of your waste streams. Section 3.7 of the manual provides guidance on choosing the most appropriate waste class for your waste.

Please note that determining the characterization of your waste stream must be done at the point of generation (please see 3.1.3 of the manual for more information on when a waste is considered to be generated). Wastes should not be bulked, blended or mixed in any way until the characterization process has been completed.

**Figure 3.2 Steps to Determine Registration and Other Regulatory Requirements**



**Table 3.1 Do any exemptions from waste generator registration apply?**

Question		Section of Regulation and Manual	Requirements
Section 3 Exemptions	Is your waste exempt from Part V of the EPA and Regulation 347 through S.3 of the regulation?	<ul style="list-style-type: none"> <li>• S.3 of Regulation 347</li> <li>• 3.2.2 of this manual</li> </ul>	<ul style="list-style-type: none"> <li>• Waste characterization and generator registration not required</li> <li>• If exempt through paragraph 1i, 6, 9, 10 or 11 of S. 3 (2), you must meet the requirements of S. 3 (3) of Regulation 347</li> <li>• If exempt through paragraph 7 or 8 of S. 3 (2), you must meet the requirements of S. 3 (3.1) of Regulation 347</li> </ul>
Subject Waste Definition	Is your waste excluded from the definition of subject waste?	<ul style="list-style-type: none"> <li>• S.1 of Regulation 347</li> <li>• S.1 (3) 1 to 6 of Regulation 347</li> <li>• 3.2.1.2 of this manual</li> </ul>	<ul style="list-style-type: none"> <li>• Generator registration not required</li> <li>• Although exempt from the subject waste definition, the waste may still meet the definition of hazardous waste or LIW</li> <li>• Waste must be managed or disposed of at a facility approved for these types of hazardous waste or LIW and, if shipped, must be with an appropriately approved carrier.</li> <li>• If waste is from the servicing of motor vehicles at a retail motor vehicle service station or service facility, there must be a written agreement for the collection and management of the waste with a waste management system approved under Part V of the Act (see Guideline C-11-1: Procedures for the Handling and Disposal of Selected Wastes from Retail Motor Vehicle Servicing Facilities)</li> <li>• If waste is WEEE or printed circuit boards, the waste must be destined for a site at which they are to be processed for the recovery of materials.</li> <li>• If waste is intact waste batteries, or common mercury waste the waste must be destined for a waste battery recovery facility or common mercury waste recovery facility, respectively.</li> </ul>

**Table 3.1 Do any exemptions from waste generator registration apply?**

<b>Question</b>		<b>Section of Regulation and Manual</b>	<b>Requirements</b>
Specific Legislative or Regulatory Provisions	Is your waste excluded from generator registration by other specific legislative or regulatory provisions?	<p>Exemptions through the EPA, other Acts, or Regulation 347 (see 3.2.3 to 3.2.4 of this manual):</p> <ul style="list-style-type: none"> <li>• Treated wastewater discharged to watercourses from OWRA approved facilities</li> <li>• Selected waste depots (S.43-60 of Regulation 347)</li> <li>• Field operations (S.29.1-29.5 of Regulation 347)</li> <li>• C of A</li> </ul>	<ul style="list-style-type: none"> <li>• Generator registration not required</li> <li>• For OWRA facilities, registration of hazardous waste discharged into the final stage of treatment facility and subject wastes generated by these facilities are not exempt</li> <li>• Must meet all associated requirements in Regulation 347 or other Ministry documents to be exempt from generator registration requirement <ul style="list-style-type: none"> <li>▪ S.43-60 for selected waste depots</li> <li>▪ S.29.1-29.5 for field operations</li> <li>▪ Other Ministry documents (i.e., C of A)</li> </ul> </li> </ul>
	Is your waste excluded from the definition of hazardous waste?	<ul style="list-style-type: none"> <li>• S.1 of Regulation 347, items (l) through (u) of the definition of hazardous waste</li> <li>• Waste characterization must be completed</li> <li>• See Figure 3.3 and sections 3.2.1 and 3.5.3 of this manual</li> </ul>	<ul style="list-style-type: none"> <li>• Generator registration not required</li> <li>• These non-hazardous wastes must be managed or disposed of at an appropriately approved facility and if shipped must be with an appropriately approved carrier.</li> </ul>
Definitions of Hazardous and Liquid Industrial Waste	Is your waste excluded from the definition of LIW?	<ul style="list-style-type: none"> <li>• S.1 of Regulation 347, items (a) through (i) of the definition of LIW</li> <li>• Waste characterization must be completed</li> <li>• See Figure 3.3 and sections 3.2.1 and 3.5.3 of this manual</li> </ul>	<ul style="list-style-type: none"> <li>• Generator registration not required</li> <li>• These non-hazardous wastes must be managed or disposed of at an appropriately approved facility and if shipped, must be with an appropriately approved carrier.</li> </ul>

### **3.5.1 Waste analysis requirements**

Generators need to have enough knowledge about their waste streams to be able to characterize them accurately, in order to determine whether or not each waste stream needs to be registered with the Ministry. In some cases, the waste may need to undergo laboratory testing, while in others the generator's knowledge of the waste may be all that is needed to characterize the waste appropriately. In many cases, a combination of the generator's knowledge and laboratory testing will be the best approach to characterization.

As a generator, you are responsible for accurately characterizing and registering the waste. Your records are subject to Ministry inspection, and they must demonstrate that the waste analysis you carried out resulted in the waste being characterized appropriately. Generators must maintain at least three years' worth of records at the waste generation facility showing all data, analysis and other information used to prepare the GRR. Waste analysis does not have to be repeated to characterize the waste unless there is a change to the process or materials used in the process that produces it. As a result, generators should retain their waste analysis and other relevant records for as long as they continue to generate the waste, and for the required period after they cease generating it.

#### **3.5.1.1 Waste characterization using generator knowledge**

There are a number of cases where the generator's knowledge of the waste may be sufficient to characterize the waste stream appropriately. For example, if you know that your waste is a hazardous waste chemical, you do not have to perform an analysis to confirm this.

Similarly, it may not be necessary to test listed wastes in a laboratory. For example, if an industrial process that is identical to the process described in the listing generates a listed waste, analysis may not be necessary to identify the waste stream's hazardous characteristics. If the waste stream is not a listed waste, information from the Material Safety Data Sheets (MSDS) or laboratory analysis can be used to determine if the waste exhibits any of the characteristics of hazardous waste.

By contrast, in the case of wastes that are subject to LDR requirements, the generator's knowledge may not be sufficient for characterization. In such cases, additional analysis and assessment may be needed to identify the regulated constituents in the waste that have to be treated.

#### **3.5.1.2 Waste characterization using laboratory analysis**

If laboratory testing is needed to characterize your waste stream, you should use your knowledge of the waste to help determine the specific analyses that are needed, since it is only necessary to analyze the waste for constituents that are reasonably expected to be present.

For hazardous industrial wastes, if the production process differs from the process described in the listing in Regulation 347, generators may need to test their waste for additional constituents that may be present. Again, however, the specific analysis carried out should be based on the generator's knowledge of the process used and the waste being produced. For example, if all of the chemicals used in the industrial process are inorganic, it is not necessary to test the waste for organic compounds.

A similar approach is recommended for characteristic wastes. Depending on the origin of the waste, lab testing may be needed to identify whether the waste is corrosive, ignitable, and/or leachate toxic. The analyses conducted should be based on the generator's knowledge of the waste stream. For example, when you are analysing for leachate toxicity you should test for contaminants that can reasonably expected to be present in the waste. With this approach, a complete analysis to identify all the possible contaminants that can cause a waste to be leachate toxic would only be necessary if there was no information on the history or origin of the waste.

### 3.5.2 Using the Waste Characterization Flowchart

The waste characterization flowchart in Figure 3.3 is designed to help you bring a systematic approach to determining whether or not you need to register your facility and the wastes it produces. This section of the manual contains the explanations that appear throughout the flowchart.

**All** subject waste generated on-site ***must be registered, even if it is not shipped off-site.*** Please note that after a characteristic waste is fully treated to meet the land disposal treatment requirements, it is no longer a subject waste.

Please note that you need to follow the flowchart in Figure 3.3 through to completion for each waste stream, to ensure that you have identified and prioritized all characterizations for a particular waste. If more than one waste characterization applies, the first characterization identified using the flowchart is defined as the ***primary characterization*** that you should report for all subject wastes. Any additional characterizations that you identify using the flowchart are defined as ***secondary characterizations***. For wastes that are subject to LDR notification requirements, you must identify ***all*** additional secondary characterizations for each waste stream, and report them in the LDR notification form (Part 2B) of the GRR.

Please do ***not*** attempt to complete your GRR until you have followed the flowchart through to completion for each waste stream and have read all the relevant explanations.

### 3.5.3 Flowchart Explanations

**Note: These explanations are only to be used in conjunction with the waste characterization flowchart (Figure 3.3).**

#### Explanation 1 – Severely Toxic Waste

Severely toxic wastes are characterized as wastes that contain one or more of the contaminants listed in Schedule 3 of Regulation 347 at a concentration greater than one part per million. Schedule 3 is reprinted in this manual in Appendix A. Severely toxic wastes could include pesticides such as 2,4,5-T and pentachlorophenol, but are unlikely to include industrial waste streams. Please note that a mixture of severely toxic waste and any other waste or material remains severely toxic waste.

Similarly, waste that is derived from severely toxic waste remains severely toxic waste unless it is produced in accordance with a C of A that states that, in the opinion of the Section 39 Director, the waste

that is produced in accordance with the C of A does not have characteristics similar to the characteristics of the severely toxic waste from which it was derived.

Please note that there is no SQE for severely toxic wastes, and that empty containers and liners are also considered to be hazardous waste.

If you generate a waste that is severely toxic, you will need to specify the following information on the GRR:

- **Waste characterization - Severely toxic (S)**
- **Waste Class** – Select the three-digit waste class number from Appendix B of this manual next to the listing that best describes your waste
- **Waste Number** - Add the letter “S” to the waste class number to specify the above waste characterization, for example, 242S
- **Hazardous Waste Number** – select the four-character code (a letter followed by three numbers) found in Column 1 of Schedule 3, used to identify individual Severely Toxic wastes (e.g., S001).

Please note that severely toxic wastes are subject to LDR treatment requirements before land disposal.

#### Explanation 2 – Pathological Waste

Regulation 347 defines pathological waste, in part as follows:

- i) any part of the human body, including tissues and bodily fluids, but excluding fluids, extracted teeth, hair, nail clippings and the like, that are not infectious
- ii) any part of the carcass of an animal infected with a communicable disease or suspected by a licensed veterinary practitioner to be infected with a communicable disease, or
- iii) non-anatomical waste infected with a communicable disease.

If you are in doubt as to whether or not your waste is pathological, you should consult with, for example, a licensed medical practitioner, a veterinary doctor or a bio-safety officer. Please also note that a mixture of a pathological waste and any other waste or material remains pathological waste. Waste that is derived from pathological waste also remains pathological waste, unless it is produced in accordance with a C of A that states that, in the opinion of the Section 39 Director, the waste that is produced in accordance with the C of A does not have characteristics similar to the characteristics of pathological waste.

Please note that there is no SQE for pathological wastes, and that empty containers and liners are also pathological waste unless they have been incinerated, autoclaved or otherwise sterilized to make them non-infectious.

If you generate a pathological waste, you will need to specify the following information on the GRR:

- **Waste characterization - Pathological waste (P)**
- **Waste Class** – Select the three-digit waste class number 312 from Appendix B of this manual
- **Waste Number** - Add the letter “P” to the waste class number to specify the above waste characterization, 312P. *Please note that no other combination of waste class and characterization can be used to identify pathological waste*
- **Hazardous Waste Number** – Not Applicable.

Pathological wastes are not subject to Ontario's LDR treatment requirements.

### Explanation 3 – PCB Waste

PCB waste in Regulation 347 has the same meaning as in Regulation 362. In general, PCB wastes are wastes that contain PCBs at concentrations greater than 50 parts per million (ppm) by weight. Please refer to Regulation 362 on the Ministry's website for further details at ([http://www.e-laws.gov.on.ca/html/regs/english/elaws\\_regs\\_900362\\_e.htm](http://www.e-laws.gov.on.ca/html/regs/english/elaws_regs_900362_e.htm)).

Electrical or other equipment that contains PCBs that is still in service is not considered to be waste, and thus does not require registration. However, if the equipment comes out of service or the PCB liquid is drained from the equipment, registration is required. PCB wastes that are stored on a site, whether or not this is authorized by any other regulation, must be registered.

If you generate PCB wastes or have PCB wastes stored, you will need to specify the following information on the GRR.

- **Waste characterization - PCB waste (D)**
- **Waste Class** – Select the three-digit waste class number 243 from Appendix B of this manual
- **Waste Number** - Add the letter “D” to the waste class number to specify the above waste characterization, 243D. *Please note that no other combination of waste class and characterization can be used to identify PCB waste.*
- **Hazardous Waste Number** – Not Applicable.

Regulation 347 prohibits the land disposal of PCB wastes. Generators should note, however, that wastes containing PCBs that do not meet the definition of PCB waste may exhibit a characteristic of hazardous waste (see leachate toxic wastes).

Generators of PCB wastes must also meet federal reporting requirements for PCBs (see <http://www.ec.gc.ca/wmd-dgd/default.asp?lang=En&n=E245C68E-1> for more information on the *Canadian Environmental Protection Act* (Canada) (CEPA) regulations for PCBs).

### Explanation 4 – Acute Hazardous Waste Chemical and Hazardous Waste Chemical

For wastes that are commercial chemical products or combinations of commercial chemical products, generators must consider Part A of Schedule 2 (acute hazardous waste chemical) and Part B of Schedule 2 (hazardous waste chemical) of Regulation 347. These schedules are reprinted in Appendix A of this manual.

It is important to note that Part A and Part B of Schedule 2 are lists of *products or by-products* that are seldom disposed of, but, for whatever reason, become wastes. These are *not* lists of contaminants that, if present in a waste stream, make the waste stream hazardous.



Acute hazardous waste chemicals or hazardous waste chemicals are commercial chemical products or manufacturing intermediates that are off-specification or otherwise unacceptable for use from time to time. Commercial waste chemicals include materials such as pharmaceutical or pesticide waste products that contain active ingredients in Part A or Part B of Schedule 2. Active ingredients are chemical constituents that have been included in a formulated product for an intended effect. For example, a waste pesticide formulation that includes dieldrin (which is listed in Part A of Schedule 2) as an active ingredient would be classified as an acute hazardous waste chemical.

**Generators should carefully review Part A and Part B of Schedule 2.** While there are a number of ways of naming any chemical, the chemical abstracts service registry number (CAS number) is a unique number assigned to each chemical.

To determine whether a waste chemical is in these schedules, generators should search for the CAS number, if available. Otherwise, the synonyms for each chemical must be identified and each synonym compared to the schedules, which are arranged alphabetically. For commercial chemical products that are known only by the trade name, generators should contact the supplier to identify the generic name or CAS number of the active ingredients, so they can be compared with the schedules.

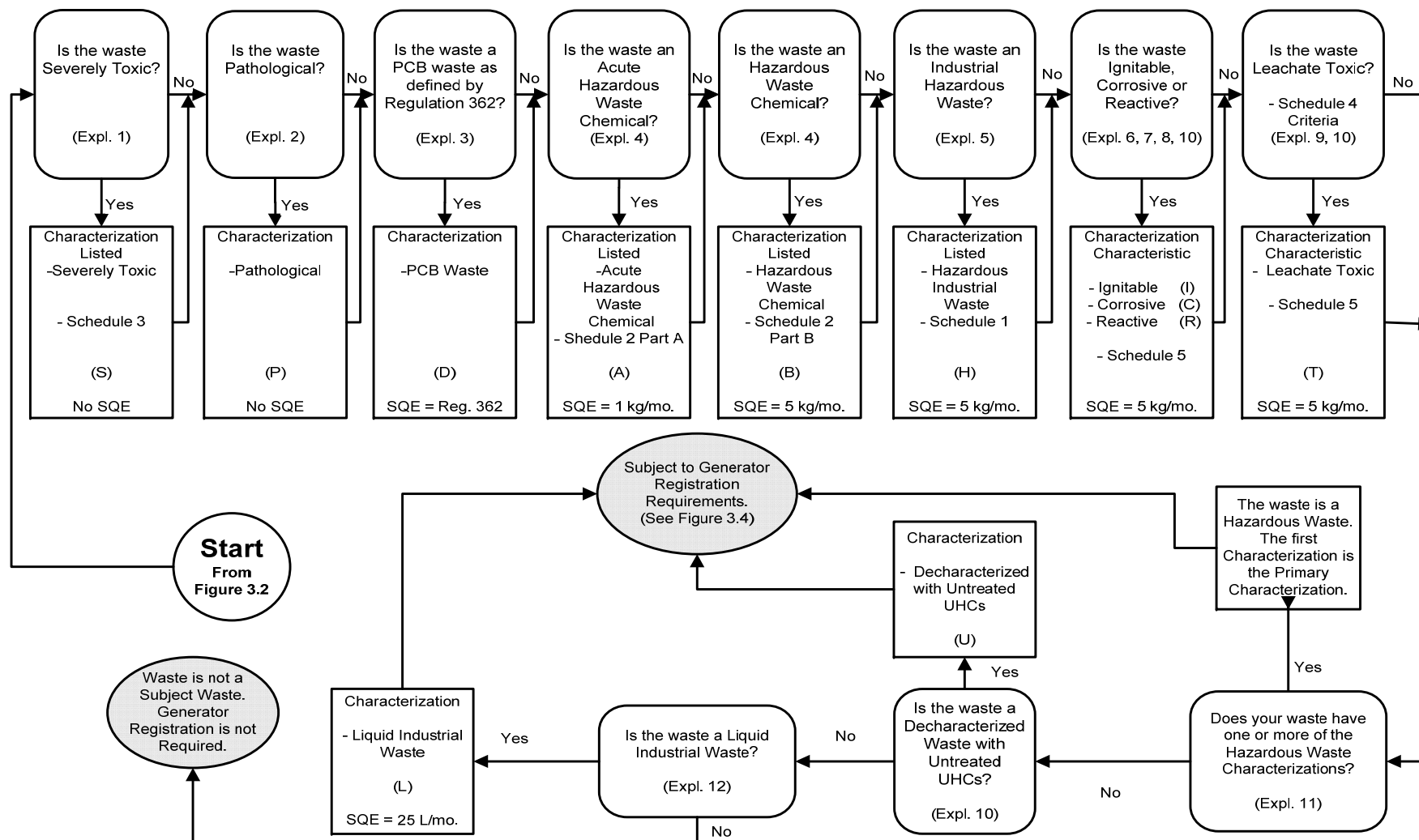
A mixture of an acute hazardous waste chemical and any other waste or material remains an acute hazardous waste chemical. In the same way, a mixture of a hazardous waste chemical and any other waste or material remains a hazardous waste chemical.

Waste derived from an acute hazardous waste chemical remains an acute hazardous waste chemical — unless it is produced in accordance with a C of A that states that, in the opinion of the Section 39 Director, the waste that is produced in accordance with the C of A does not have characteristics similar to the characteristics of the acute hazardous waste chemical from which it was derived. Similarly, waste derived from a hazardous waste chemical remains a hazardous waste chemical — unless it is produced in accordance with a C of A that states that, in the opinion of the Section 39 Director, the waste that is produced in accordance with the C of A does not have characteristics similar to the characteristics of the hazardous waste chemical from which it was derived.

For the wastes listed in Part A of Schedule 2, or wastes that contain active ingredients in Part A of Schedule 2, **the small quantity exemption (SQE) is one kg of waste per month.** If you generate one kg or more of this type of waste in a one-month period, or accumulate one kg or more at your site over any period, the small quantity exemption does not apply, and you must register the hazardous waste. For example, if your facility generates 0.5 kg per month but accumulates waste for six months before shipping it off-site for disposal, the waste is not eligible for a small quantity exemption, since the total quantity accumulated is greater than the small quantity exemption.

Containers with 20 litres or more of capacity that previously contained products in Part A of Schedule 2 are considered hazardous waste unless they have been triple-rinsed with an appropriate solvent. Inner liners that weigh 10 kg or more and that previously contained products in Part A of Schedule 2 are also considered hazardous waste, unless they have been triple-rinsed with an effective solvent.

**Figure 3.3 Waste Characterization Flowchart**



Note: The waste characterization flowchart must be followed through to completion for each waste generated. For a detailed explanation on waste characterization refer to section 3 of the Registration Manual. If you treat your waste on-site, registration and other requirements depend on whether the processed waste or residual is a subject waste and whether LDR requirements apply. (see Figure 3.4, 3.5 & 3.6)

If you generate a waste that is found in Part A of Schedule 2, or that contains active ingredients in Part A of Schedule 2, you will need to specify the following information on the GRR:

- **Waste characterization - Acute Hazardous Waste Chemical (A)**
- **Waste Class** – Select the three-digit waste class number from Appendix B next to the listing that best describes your waste. For example, the number could be 148 if the chemical is inorganic, 263 if the chemical is organic, or 261 if the waste is pharmaceutical
- **Waste Number** - Add the letter “A” to the waste class number to specify the above waste characterization, for example, 148A, 263A or 261A
- **Hazardous Waste Number** – select the four-character code (a letter followed by three numbers) found in Column 1 of Part A of Schedule 2, which is used to identify individual Acute Hazardous Waste Chemicals (e.g., P026).

Acute hazardous waste chemicals are subject to LDR treatment requirements before land disposal.

For wastes listed in Part B of Schedule 2 or wastes containing active ingredients in Part B of Schedule 2, the **SQE is five kg of waste per month**. If you generate five or more kg of this type of waste in a one-month period, or accumulate five or more kg at your site over any period, the SQE does not apply, and you are required to register the hazardous waste. Empty containers and inner liners that contained products in Part B of Schedule 2 are not considered to be hazardous waste.

If you generate a waste that is found in Part B of Schedule 2 or that contains active ingredients in Part B of Schedule 2, you will need to specify the following information on the GRR:

- **Waste characterization - Hazardous waste chemical (B)**
- **Waste Class** – Select the three-digit waste class number from Appendix B, next to the listing that best describes your waste. For example, the number could be 148 if the chemical is inorganic, 263 if the chemical is organic or 261 if the waste is pharmaceutical
- **Waste Number** - Add the letter “B” to the waste class number to specify the above waste characterization (e.g., 148B, 263B or 261B)
- **Hazardous Waste Number** – select the four-character code (a letter followed by three numbers) found in Column 1 of Part B of Schedule 2, which is used to identify individual Hazardous Waste Chemicals (e.g., U021).

Hazardous waste chemicals are subject to LDR treatment requirements before land disposal.

#### Explanation 5 – Hazardous Industrial Waste

Industrial waste streams that are considered to be hazardous are listed in Schedule 1 of Regulation 347. Schedule 1 is reprinted in Appendix A of this manual, along with descriptions of both generic and process-specific waste streams that you can compare to your process waste stream.

A mixture of a hazardous industrial waste and any other waste or material remains a hazardous industrial waste. Waste that is derived from hazardous industrial waste remains hazardous industrial waste — unless it is produced in accordance with a C of A that states that, in the opinion of the Section 39 Director, the waste that is produced in accordance with the Certificate of Approval does not have characteristics similar to the characteristics of the hazardous industrial waste from which it was derived.

For hazardous industrial waste, the **SQE is five kg per month**. If you generate five or more kg in a one-month period, or accumulate five or more kg at your site over any period, the SQE does not apply, and

you are required to register the hazardous waste. Empty containers and inner liners that contained wastes listed in Schedule 1 are not considered hazardous wastes.

If you generate a waste that is listed in Schedule 1, you will need to specify the following information on the GRR:

- **Waste characterization** - Hazardous industrial waste (**H**)
- **Waste Class** – Select the three-digit waste class number from Appendix B, next to the listing that best describes your waste
- **Waste Number** - Add the letter “**H**” to the waste class number to specify the above waste characterization (e.g., 211H)
- **Hazardous Waste Number** – select the four-character code (a letter followed by three numbers) found in Column 1 of Schedule 1, which is used to identify individual Hazardous Industrial Wastes (e.g., F001 or K001).

Hazardous industrial wastes are subject to LDR treatment requirements before land disposal.

#### Explanation 6 – Ignitable Waste

Wastes that are ignitable are defined in Regulation 347 by any of four criteria listed below.

1. It is a liquid, other than an aqueous solution containing less than 24 per cent alcohol by volume, and has a flash point less than 61° C, as determined by any of the following test methods:
  - ASTM D-56-79
  - ASTM D-3243-77
  - ASTM D-3278-78
  - ASTM D-93-79 or
  - as determined by an equivalent test method approved by the Director.

Examples of ignitable liquid waste include ethanol, varsol, gasoline or petroleum distillates.

2. It is a solid and is capable, under standard temperature and pressure, of causing fire due to friction, absorption of moisture, or spontaneous chemical changes, and when ignited burns so vigorously and persistently that it creates a danger.

An example of an ignitable solid waste is sodium metal.

3. It is a Class 2.1 Flammable Gas within the meaning of paragraph 2.14(a) of the Transportation of Dangerous Goods Regulations (TDGR) made under the *Transportation of Dangerous Goods Act* (Canada).

Class 2, Division 1 gases in the TDGR are identified as:

- (a) Class 2.1, Flammable Gases, which consists of gases that, at 20°C and an absolute pressure of 101.3 kPa,
  - (i) are ignitable when in a mixture of 13 per cent or less by volume with air, or
  - (ii) have a flammability range with air of at least 12 percentage points determined in accordance with tests or calculations in ISO 10156;

Examples of ignitable gases include methane (natural gas), butane or butane mixtures, and propane.

4. It is a Class 5.1 Oxidizing Substance within the meaning of paragraphs 2.24(a) of the Transportation of Dangerous Goods Regulations made under the *Transportation of Dangerous Goods Act* (Canada), or

It is a Class 5.2 Organic Peroxide within the meaning of paragraphs 2.24(b) of the Transportation of Dangerous Goods Regulations made under the *Transportation of Dangerous Goods Act* (Canada).

This includes substances such as chlorates, permanganates, and nitrates that readily yield oxygen to stimulate, or contribute to, the combustion of other materials. Substances that contain the bivalent -O-O- structure are also considered to be oxidizers.

To assist in your evaluation, Schedule 1 of TDGR lists a number of oxidizing substances and organic peroxides as Class 5 dangerous goods. These are substances that have a 5.1 or 5.2 designation in column 3 of this list. In the same manner, Schedule 1 of the TDGR lists a number of ignitable and flammable gases as Class 2 dangerous goods. These are substances that have a 2.1 designation in column 3 of this list.

For ignitable wastes the *SQE is five kg per month*. If you generate five or more kg in a one-month period, or accumulate five or more kg at your site over any period, the SQE does not apply, and you must register the hazardous waste. Empty containers and liners that contained ignitable wastes are not considered to be hazardous waste.

If you generate a waste that is an ignitable waste, you will need to specify the following information on the GRR:

- **Waste characterization - Ignitable waste (I)**
- **Waste Class** – Select the three-digit waste class number from Appendix B of this manual next to the listing that best describes your waste
- **Waste Number** - Add the letter “I” to the waste class number to specify the above waste characterization (e.g., 213I)
- **Hazardous Waste Number** – select the four-character code D001 found in Column 1 of Schedule 5 of Regulation 347, used to identify Ignitable Characteristic wastes.

You may also be required to specify the following information on the GRR:

- **Underlying Hazardous Constituent (UHC)** – select the regulated constituents found in Column 1 of Schedule 6 of Regulation 347 that are present in the waste at the point of generation, if its concentration is at or above the treatment requirement described in the schedule.

Ignitable wastes are subject to land disposal treatment requirements before land disposal. If you process ignitable wastes on-site that will be land disposed, please also see Explanation 10 on de-characterized waste with untreated UHCs.

#### Explanation 7 – Corrosive Waste

Wastes that are corrosive are defined in Regulation 347 by any of the three criteria listed below.

1. It is aqueous and has a pH less than or equal to 2.0, or greater than or equal to 12.5, as determined by a pH meter
2. It is a liquid and corrodes steel (SAE 1020) at a rate greater than 6.35 millimetres per year at a test temperature of 55° C, using the National Association of Corrosion Engineers (NACE) test method TM-01-69 or an equivalent test approved by the Director
3. It is a solid and, when prepared in a mixture or solution with distilled water that is 50 per cent waste by weight, has a pH less than or equal to 2.0 or greater than or equal to 12.5, as determined by a pH meter — other than;
  - i) solid incinerator ash or fly-ash from a woodwaste combustor site, or
  - ii) solid wastes generated by a manufacturer of pulp, paper, recycled paper, corrugated cardboard or other paper products.

For corrosive wastes the ***SQE is five kg per month***. If you generate five or more kg in a one-month period, or accumulate five or more kg at your site over any period, the SQE does not apply, and you are required to register the hazardous waste. Empty containers and inner liners that contained corrosive wastes are not considered to be hazardous waste.

If you generate a waste that is a corrosive waste, you will need to specify the following information on the GRR:

- **Waste characterization - Corrosive waste (C)**
- **Waste Class** – Select the three-digit waste class number from Appendix B, beside the listing that best describes your waste
- **Waste Number** - Add the letter “C” to the waste class number to specify the above waste characterization (e.g., 111C)
- **Hazardous Waste Number** – select the four-character code D002 found in Column 1 of Schedule 5 of Regulation 347, which is used to identify Corrosive Characteristic wastes.

You may also be required to specify the following information on the GRR:

- **Underlying Hazardous Constituent (UHC)** – select the regulated constituents found in Column 1 of Schedule 6 of Regulation 347 that are present in the waste at the point of generation, if its concentration is at or above the treatment requirement described in the schedule.

Corrosive wastes are subject to land disposal treatment requirements before land disposal. If you process corrosive wastes on-site that will be land disposed, see also Explanation 10 on de-characterized waste with untreated UHCs.

#### Explanation 8 – Reactive Waste

Regulation 347 defines reactive waste as a waste that can exhibit a range of diverse properties. Generally, the intent is to include wastes that are susceptible to violent/vigorous reactions or are likely to generate toxic fumes. A reactive waste is one that meets any of the criteria listed below, which are used to define reactive wastes in Regulation 347:

1. It is normally unstable and readily undergoes violent change without detonating
2. It reacts violently with water
3. It forms potentially explosive mixtures with water
4. When mixed with water it generates toxic gases, vapours or fumes in a quantity great enough to present danger to human health or the environment

5. It is a cyanide- or sulphide-bearing waste which, when exposed to pH conditions between 2.0 and 12.5, can generate toxic gases, vapours or fumes in a quantity great enough to present danger to human health or the environment
6. It is capable of detonation or explosive reaction if it subjected to a strong initiating source or if it is heated under confinement
7. It is readily capable of detonation or explosive decomposition or reaction at standard temperature and pressure
8. It is a Class 1 Explosive within the meaning of section 2.9 of the Transportation of Dangerous Goods Regulations made under the *Transportation of Dangerous Goods Act* (Canada).

For reactive wastes the **SQE is five kg per month**. If you generate five or more kg in a one-month period, or accumulate five or more kg at your site over any period, the SQE does not apply, and you must register the hazardous waste. Empty containers or inner liners that contained reactive wastes are not considered to be hazardous waste.

If you generate a waste that is reactive, you will need to specify the following information on the GRR:

- **Waste characterization - Reactive waste (R)**
- **Waste Class** – Select the three-digit waste class number from Appendix B next to the listing that best describes your waste
- **Waste Number** - Add the letter “**R**” to the waste class number to specify the above waste characterization (e.g., 263R)
- **Hazardous Waste Number** – select the four-character code D003 found in Column 1 of Schedule 5 of Regulation 347, which is used to identify Reactive Characteristic wastes.

You may also be required to specify the following information on the GRR:

- **Underlying Hazardous Constituent (UHC)** – select the regulated constituents found in Column 1 of Schedule 6 of Regulation 347 that are present in the waste at the point of generation, if its concentration is at or above the treatment requirement outlined in the schedule.

Reactive wastes are subject to land disposal treatment requirements before land disposal. If you process reactive wastes on-site that will be land disposed, please also see Explanation 10 on de-characterized waste with untreated UHCs.

### Explanation 9 – Leachate Toxic Waste

Leachate toxic waste means a waste that produces leachate that contains any of the contaminants listed in Schedule 4 of Regulation 347 (Appendix A) — if these contaminants are at a concentration that is equal to or in excess of the concentration specified for that contaminant in Schedule 4, using the Toxicity Characteristic Leaching Procedure (TCLP). This characterization, as described by the TCLP, applies to both liquid and solid wastes, and includes multi-phase wastes. This test identifies the leachability of hazardous constituents, and is used to determine if a waste is hazardous.

The determination of leachate toxicity is not limited to wastes that will be land disposed. Leachate toxicity describes a characterization of hazardous waste, and may apply to any kind of waste, regardless of how it will be disposed. The term “leachate toxic” should not be confused with leachate that is produced at a landfill site.

***For leachate toxic wastes the SQE is five kg of waste per month.*** If you generate five or more kg in a one-month period, or accumulate five or more kg at your site over any period, the SQE does not apply, and you are required to register the hazardous waste. Empty containers and inner liners that contained leachate toxic wastes are not considered to be hazardous waste.

If you generate a waste that is leachate toxic waste, you will need to specify the following information on the GRR:

- **Waste characterization** - Leachate toxic waste (**T**)
- **Waste Class** – Select the three-digit waste class number from Appendix B beside the listing that best describes your waste
- **Waste Number** - Add the letter “**T**” to the waste class number to specify the above waste characterization (e.g., 131T)
- **Hazardous Waste Number** – select the four-character code (a letter followed by three numbers) found in Column 1 of Schedule 5 of Regulation 347, which is used to identify individual Leachate Toxic wastes (e.g., D004).

You may also be required to specify the following information on the GRR:

- **Underlying Hazardous Constituent (UHC)** – select the regulated constituents found in Column 1 of Schedule 6 of Regulation 347 that are present in the waste at the point of generation, if its concentration is at or above the treatment requirement outlined in the schedule.

Leachate toxic wastes are subject to land disposal treatment requirements before land disposal. If you process leachate toxic wastes on-site that will be land disposed, please also see Explanation 10 on de-characterized waste with untreated UHCs.

#### Explanation 10 – De-characterized Waste with Untreated UHCs

On or after December 31, 2009, subject waste includes waste that was characteristic waste but that has been treated so that it is no longer characteristic waste, but does not meet the LDR treatment requirements in subsection 79 (1) of Regulation 347. Typically, this is waste that has been treated to remove the hazardous characteristic but that still requires further treatment of regulated constituents to meet the land disposal treatment requirements in Schedule 6 of Regulation 347. De-characterized wastes that will be land disposed and have UHCs that do not meet the Schedule 6 standards must be registered and manifested when they are shipped off-site.

If a characteristic waste has been treated so that it is no longer hazardous but does not meet the land disposal treatment requirements in subsection 79 (1) (i.e., additional regulated constituents from Schedule 6 still require treatment), the waste must be registered if it is shipped off-site. The waste characterization that has been created for these de-characterized wastes is U. This waste characterization applies once the Schedule 6 treatment standards take effect, on December 31, 2009.

If you generate a waste that is de-characterized, you will need to specify the following information on the GRR:

- **Waste characterization** - De-characterized Waste with Untreated UHCs (**U**)
- **Waste Class** – Select the three-digit waste class number from Appendix B beside the listing that best describes your waste
- **Waste Number** - Add the letter “**U**” to the waste class number to specify the above waste characterization (e.g., 113U)



- **Hazardous Waste Number** – select the four-character code (a letter followed by three numbers) found in Column 1 of Schedule 5 of Regulation 347, which is used to identify individual Characteristic wastes (e.g., D001 or E001). The original hazardous waste number for the untreated characteristic waste should be used.
- **Underlying Hazardous Constituent (UHC)** – select the regulated constituents found in Column 1 of Schedule 6 that are present in the waste at the point of generation, if its concentration is at or above the treatment requirement.

Fully treated characteristic wastes that are not subject to LDR requirements do not need to be registered. More information on registering characteristic wastes that are processed on-site is included in 4.1.2 of the manual.

#### Explanation 11 – Hazardous Waste

If a waste exhibits any of the waste characterizations discussed in explanations 1 through 9, it is considered to be a hazardous waste and is therefore subject to generator registration and manifesting provisions. Listed and characteristic wastes (explanations 1 and 4 through 9) are also subject to LDR requirements if they are to be land disposed.

The first characterization identified in the flow chart is defined as the primary waste characterization for the waste, and this is used to identify the appropriate waste class for the purposes of registration. However, all additional secondary characterizations must also be identified. For wastes that are subject to LDR notification requirements, all characterizations must be identified for each waste stream, and reported in the LDR notification form of the GRR (Part 2B).

If you generate a characteristic waste (explanations 6 through 9) that is being processed on-site, the waste may remain a subject waste after processing if the waste will be land disposed. Please see Explanation 10 above for further information.

Where it is desirable to manage a number of wastes with different primary characterizations as a single load, the combined load is referred to as a “lab pack.” Further information about lab packs can be found in 3.7.5 of this manual.

A number of explanations refer to waste that is derived from waste with a specified characterization. A waste subject to the derived-from rule retains its waste characterization, even if it is processed at an approved facility — unless the C of A for the facility specifically states that the resulting waste no longer retains the original hazardous characterization. A number of explanations also indicate that waste that is mixed with any other waste or material retains its original hazardous characterization. The mixture and derived-from rules are discussed earlier, in 3.1.4.1 of this manual.

There are additional limitations on the mixing of hazardous wastes with other wastes or materials, particularly for wastes that are subject to LDR. The conditions under which mixing of hazardous wastes can occur at a waste generation facility without a C of A are outlined in 6.1.2 of the manual. Hazardous waste exemptions are discussed in 3.2 of the manual.

#### Explanation 12 – Liquid Industrial Waste

LIW are also subject to generator registration and manifesting provisions. These wastes include any liquid waste from industrial, commercial, manufacturing, research or experimental activities. Liquid

wastes include wastes that are obvious liquids, such as spent acid solutions, as well as those sludges that fail the slump test included in Schedule 9 of Regulation 347.

To find out more about the slump test, please refer to Schedule 9 of Regulation 347 or Appendix A.

The slump test involves placing the waste in question in a 30-cm open inverted cone. The cone is removed and the immediate decrease (slump) in the height of the waste material is measured. If the material slumps so that the original height is reduced by 15 cm or more, the waste is a liquid. Please refer to Appendix A or Regulation 347 for further details.

For LIW, the *SQE is 25 litres per month*. If you generate 25 or more litres in a one-month period, or accumulate 25 or more litres at your site over any period, the SQE does not apply, and you are required to register the LIW.

If you generate a LIW, you are required to specify the following information on the GRR:

- **Waste characterization** - Liquid industrial waste (L)
- **Waste Class** – Select the three-digit waste class number from Appendix B beside the listing that best describes your waste
- **Waste Number** - Add the letter “L” to the waste class number to specify the above waste characterization (e.g., 121L)
- **Hazardous Waste Number** – Not Applicable.

LIW is not subject to LDR requirements. LIW exemptions are discussed in 3.2.1.1 of the manual. These exemptions are listed in the definition of LIW in Section 1 of Regulation 347.

### 3.6 LDR and Other Regulatory Requirements

Once you have characterized your waste and determined that it must be registered with the Ministry, you also need to determine if Ontario’s land disposal restrictions apply. How you register your subject wastes (e.g., characteristic waste) depends on whether the land disposal treatment requirements apply, and whether you must provide additional information during the registration process.

The flowchart in Figure 3.4 will quickly help you to determine if you need to identify the waste as an LDR waste when registering. Please note that Figure 3.4 does not deal with MHSW depots. If your facility is a MHSW depot, you should refer to 5.5.2 of this manual and section 6.3 of the handbook for more information. A similar but more detailed flowchart is included in 4.1.2 of the manual, and this flowchart includes the special situation of MHSW depots.

Figure 3.4 will help you determine whether the LDR requirements apply, and then direct you either to Figure 3.5 (waste not subject to the LDR program) or Figure 3.6 (waste that is subject to the LDR program). Figures 3.5 and 3.6 are provided to help you identify the registration and other regulatory requirements for your waste. In some cases, you may determine that your waste does not need to be registered (e.g., for characteristic wastes processed on-site, registration is not required if both the processed waste and residual are not subject wastes). Please note that processing does not include disposal (e.g., OWRA treatment, incineration, waste-derived fuel), nor does it include mixing, blending or bulking that does not result in any treatment of the waste.

Once you have identified which waste streams need to be registered, 3.7 of this manual provides information to help you determine the appropriate waste class, which is needed when you are registering your waste. Please see 6.1 of this manual for further information on managing your hazardous wastes and the regulatory requirements associated with different waste management methods.

### **3.7 Determining the Appropriate Waste Class for the Generator's Waste Stream**

In Ontario, the waste class is a three-digit number. Each number is assigned to a generic waste description that is used to classify the type of waste being managed. Ontario waste classes are a vital component of waste generator registration and manifesting. The waste classes are included in a C of A for waste carriers or receivers, to identify the waste streams they are permitted to handle or manage. The various waste classes can be found in Appendix B of this manual.

A very large number of waste streams are generated in Ontario each year. However, the Ministry has consolidated these streams into a total of 53 waste classes. These waste classes are divided into three major categories: inorganic wastes, organic wastes and other wastes. In turn, these three major categories are further subdivided into minor groups that describe the waste types or similar waste groupings. Finally, there are three-digit waste classes within each minor group — classes that describe wastes that are similar in composition, physical properties and generation source.

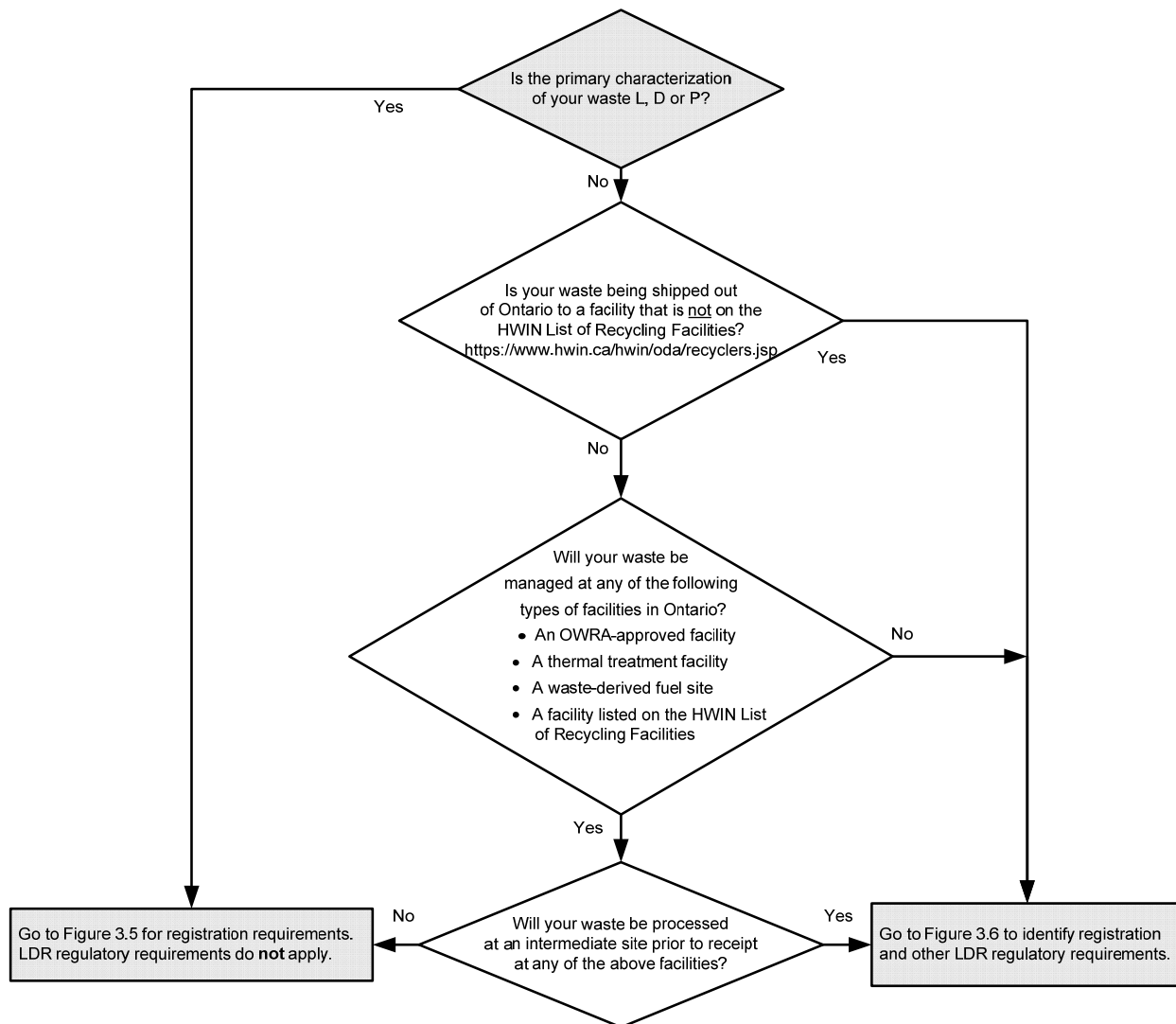
**Please note that the waste class is not used to indicate the hazard associated with the waste.** However, the hazard associated with the waste may help you to determine the appropriate waste class of the waste(s) in your waste stream.

This section of the manual provides a description of each waste class, along with examples of appropriate waste streams. The examples are intended to guide you in deciding on identifying an appropriate waste class for your waste, but they are not intended to be exhaustive lists of all the potential waste streams included for each waste class. In cases where the examples provided do not clearly represent a given waste stream, you should use the waste description to choose the appropriate waste class.

As a waste generator, you are responsible for assessing the waste(s) you produce and for complying with Ontario's generator registration and related waste management requirements.

**Figure 3.4 – Do LDR Regulatory Requirements Apply to Your Waste?**

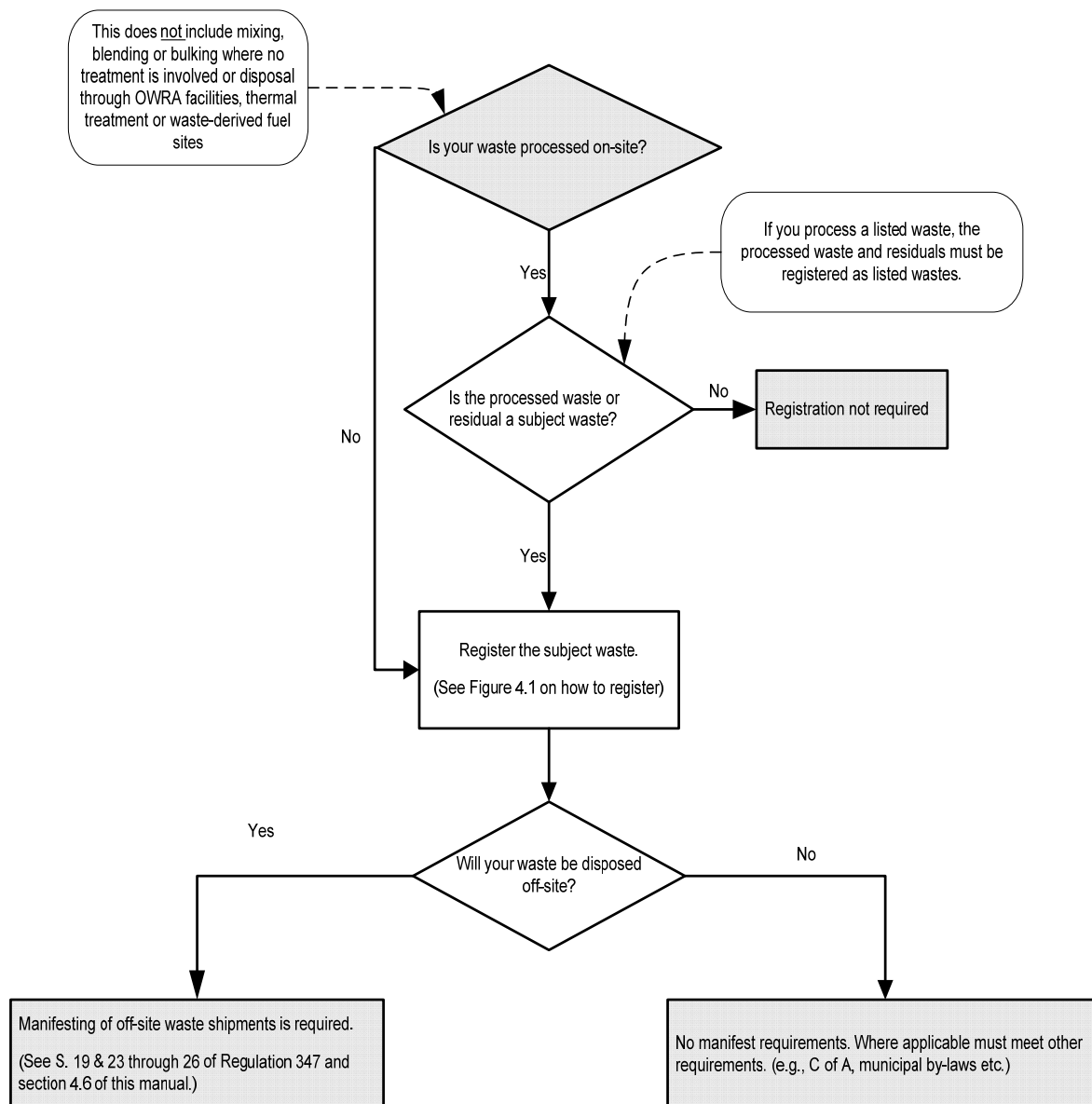
You should have completed the Waste Characterization Flowchart (Figure 3.3) prior to this flowchart



If your facility is a Municipal Hazardous or Special Waste (MHSW) depot and meets the requirements of S. 81 of Regulation 347, this figure does not apply. See S. 81 of Regulation 347, section 5.5.2 of this Registration Manual and section 6.3 of the LDR Handbook.

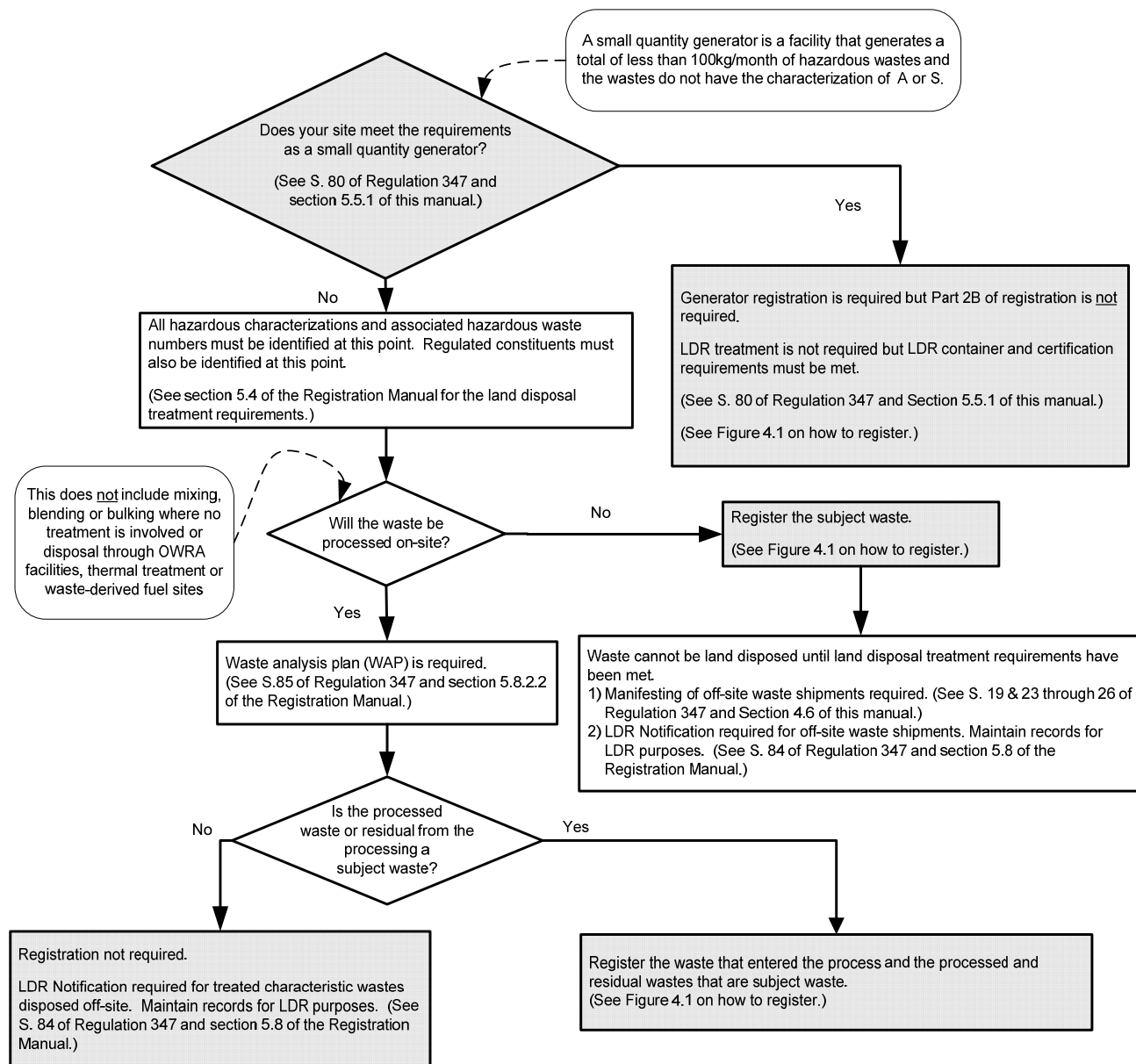
**Figure 3.5 – Registration and Other Regulatory Requirements  
Wastes Not Subject to the LDR Program**

You must have completed the waste characterization flowchart (Figure 3.3) for each waste generated at the facility and identified whether the LDR program requirements apply to your waste (Figure 3.4) before completing this flowchart. If the waste is subject to LDR program requirements, go to Figure 3.6.



**Figure 3.6 – Registration and Other Regulatory Requirements  
Wastes Subject to the LDR Program**

You must have completed the waste characterization flowchart (Figure 3.3) for each waste generated at the facility and identified whether the LDR program requirements may apply to your waste (Figure 3.4) before completing this flowchart. If your waste is not subject to LDR program requirements, go to Figure 3.5.



### 3.7.1 Choosing a waste class by major or minor category

When selecting an appropriate waste class, it is often easiest to begin by determining the major category that represents the waste stream, followed by the appropriate minor category, before you select the most reasonable waste class. In some cases, however, this approach may not always result in the selection of the most appropriate waste class. To determine the most appropriate waste description, you can use the minor or major category that best describes the waste. If you have any doubt about the appropriate waste class, ***you should base your waste class selection on the description that best fits your waste.*** The following example illustrates how this approach works.

**Example:** A spent alkaline battery may be classified as either 122 (alkaline solutions, sludges and residues containing other metals and non-metals, not containing cyanides) or as 146 (other specified inorganic sludges, slurries and solids). If the spent battery is being registered due to the corrosivity that results from high alkalinity, then the appropriate waste class is 122, since this falls under the minor category of alkaline solutions. If the spent battery is not being registered due to its alkaline nature, then the appropriate waste class may be 146.

### 3.7.2 Choosing a waste class by using the description of the waste stream

In some instances, a specific waste class accurately describes a waste stream, but the waste stream does not appear to belong under the major or minor category. In such cases, you should still choose the waste class that best describes the waste stream, even though the major or minor category may not seem appropriate. ***The waste class that best describes the waste stream should always be chosen.***

**Example:** Waste oil-based paint is an organic waste stream. However, it is most accurately described by the inorganic waste class 145 (wastes from the use of paints, pigments and coatings).

### 3.7.3 Choosing a waste class by using the “main component” rule

Where two or more waste classes could reasonably be used to describe the waste stream, the waste class that appears to be the most relevant should be chosen. You may encounter this situation where your waste stream contains components that, if they were separate, would have resulted in you choosing a different waste class for each component.

Similarly, a situation could arise where a waste stream could be described differently according to its individual components, rather than to how it was generated. The applicable waste class is usually selected based on the largest component or group of components that are present in the waste stream that share the same waste class, rather than on the most hazardous contaminant present. If you have any doubt about the appropriate waste class, ***you should base your waste class selection on the description that best fits your waste.***

**Example:** A waste stream contains 75 per cent crankcase oil, 15 per cent water, five per cent dirt and solids, and five per cent gasoline. The appropriate waste class for this mixture is 252 (waste crankcase oils and lubricants) because the greatest proportion of the waste (75 per cent) falls under this class. Although gasoline likely has the most hazardous waste characterization, waste class 221 (light fuels -

gasoline, kerosene, diesel) would not be chosen because it does not reflect the main component of this waste stream.

Notable exceptions to this "main component" rule are the waste classes 241, 242, 243, 312 and 321, which are special cases and are addressed separately below. Aqueous wastes and contaminated solid wastes can also pose problems when applying the "main component" rule. For example, most acid, alkaline and aqueous salt solutions are composed largely of water. This aqueous composition is an important consideration and should not be disregarded when choosing the appropriate waste class for these types of wastes. Normally, water and non-hazardous solids are disregarded when considering components of a waste, unless these are an integral part of the waste description. These special cases are discussed in the following sections.

### **3.7.3.1 Special Waste Classes**

There are several waste classes that are unique, in that relatively small amounts of a particular contaminant in the waste stream dictate the appropriate waste class. These special waste classes are:

- 241 - halogenated solvents and residues
- 242 - halogenated pesticides and herbicides
- 243 - polychlorinated biphenyls (PCBs)
- 312 - pathological wastes
- 321 - wastes from the manufacture of explosives and detonation products.

Waste class 241 (halogenated solvents and residues) should be selected whenever a waste stream contains a minimum of two per cent of halogenated organic materials by weight.

Waste class 242 (halogenated pesticides and herbicides) should be used whenever a waste stream is contaminated with halogenated pesticides and herbicides at a level great enough that its hazardous primary characterization results from the presence of these contaminants.

Waste classes 243 and 312 are similar, in that they must both be selected based on the primary characterization of the waste. Any waste that has a primary hazardous characterization identified as PCB waste (D) must also have the associated waste class of 243. The same applies for a primary hazardous characterization of pathological waste (P) and the waste class of 312. The waste numbers 243D and 312P are fixed, and no other waste class may be used with the waste characterizations D and P for PCB and pathological wastes.

A similar situation occurs with waste class 321. Any wastes that are not federally regulated under the *Explosives Act* (Canada), and that result from the manufacture of explosives and detonation products characterized as reactive (this is the Ontario waste characterization for explosive wastes) are automatically classified as 321R. Unlike the situation for 243D and 312P, however, the characterization of reactive can be used in conjunction with other waste streams.

### **3.7.3.2 Contaminated Solids**

Although the "main component" rule can generally be used to determine waste class numbers, one significant area where the rule cannot be easily applied involves solids that are normally non-hazardous, but that have become contaminated, for example, from a spill, leak, deliberate mixing or accident.



Wastes that do not need to be registered, such as non-hazardous solids including soils, sand, rubble, rock, glass and wood do not normally require a waste class number. However, when these non-hazardous solid wastes become contaminated with a subject waste, they may require a waste class number. In such cases, the primary waste characterization of the contaminant that made the material hazardous is used to determine the appropriate waste class.

To determine the waste class for contaminated solids, the degree of contamination is also important. If there is sufficient contamination, the entire waste may have the same primary waste characterization as the contaminant, and may therefore have the same waste class as the contaminant.

**Example:** Soil becomes contaminated with diesel fuel. The diesel fuel is an ignitable waste (I) identified as waste class 221. If the waste soil is tested and found to be ignitable, it would be classified as an ignitable waste (I). In this case, its waste class should also be 221, like the diesel fuel.

If the primary waste characterization of the solid waste differs from that of its contaminant, waste class 146 (other specified inorganic sludges, slurries and solids) or 270 (other specified organic sludges, slurries and solids) should be used to classify the solid waste. There are several reasons for a difference in primary waste characterization, including situations where a solid that was initially non-hazardous becomes contaminated through some previous exposure to an unknown contaminant.

**Example:** Soil becomes contaminated with diesel fuel. The diesel fuel is ignitable waste (I) having the waste class 221. If the soil is found to be leachate toxic waste (T) due to the presence of inorganic contaminants in the diesel fuel ignitable waste (I), then it should be identified as waste class 146, which is the general waste class for inorganic solids, because the soil does not share the same characterization as the fuel that contaminated it.

### 3.7.3.3 Aqueous Wastes

The "main component" rule is also relevant where waste streams contain mostly water. Many of these wastes are appropriately classified using one of the "aqueous waste" classes. These include acid solutions (111-114), alkaline solutions (121-123), aqueous salts (131-135), landfill leachate (149) and inert inorganic wastes (150).

For other wastes that are not specifically included in one of these "aqueous waste" classes, you can apply the "main component" rule to help determine the waste class. However, in these cases, the aqueous portion of the waste should be ignored, and the waste should be classified based on the remaining composition of the waste. Thus an aqueous waste could have the waste class of an organic waste.

**Example:** An underground gasoline storage tank is contaminated with water. While most of the waste is made up of water, this constituent can be ignored, since it is not a hazardous component. The waste is therefore considered to be waste gasoline, and identified as waste class 221.

### 3.7.4 Combining Wastes into a Single Waste Stream

To classify your waste stream appropriately, it is important to determine if the various wastes in the stream need to be registered individually as separate waste streams, or if they can be combined and

registered as a single waste stream. This is not always an easy task. Any mixture of wastes, even if they form a multi-phase mixture, must be considered as a single waste stream for registration purposes. At the same time, however, wastes should only be mixed, blended or bulked under certain conditions.

To determine if a waste can be mixed, blended or bulked with other wastes, you must first identify the type of wastes that are being generated. Each waste must be characterized at the point of generation to identify whether it is hazardous, what type of hazardous waste it is, and whether it is subject to the LDR requirements. At this point you can determine whether each of the wastes can be mixed, blended or bulked with any other waste.

When the wastes are physically separate, each waste generated can be considered and managed as an individual waste stream. However, the Ministry recognizes that generators need some flexibility when registering their waste streams, especially when the wastes are generated from the same or similar operations, such as waste lubricants from various machinery and wastewaters from various cleaning/rinsing operations. Such wastes may contain similar (though chemically different) components, and can reasonably be considered as one waste stream and mixed together. However, mixing similar wastes for the purpose of classification should not be confused with mixing them for the purposes of treatment or dilution.

Here are some considerations that can help you determine when wastes may be mixed, blended or bulked or may be separately managed:

- Do the wastes have the same waste class?
- Are the waste characterizations the same for each waste?
- Are the composition and physical state of the wastes similar?
- Can the wastes be managed using the same processing or disposal method?
- Have the wastes been generated from similar operations?

If the answer to any of the first four considerations above was “NO,” it probably means that the waste streams should not be mixed. Please see 6.1 of the manual for more information about on-site processing of waste and mixing restrictions. A review of the mixing restrictions is particularly important for generators that have waste that will be land disposed.

### **3.7.5 Lab Packs**

“Lab packs” represent something of a special situation that does not follow any of the “standard” waste classification rules. The term “lab pack” was originally applied to small quantities of miscellaneous chemicals that were generated in a laboratory. Today, lab packs involve registering multiple wastes that are packaged together — using only two waste classes — 148 and 263. These waste classes are used for all lab-packed wastes, even though individual wastes in the lab pack may be more appropriately registered with other waste classes.

To use the lab pack designation, each of the wastes must be kept segregated in its own separate container inside the lab pack. These individual wastes are then “over-packed” and shipped for disposal. Individual wastes should not be bulked before disposal, both for safety reasons and because mixing may not be permitted, due to restrictions on mixing of hazardous wastes with other wastes or materials (please see 6.1 of the manual for more details).

The original intent of lab packs was to reduce the administrative effort and time required to register and manifest a multitude of wastes whose total quantity was relatively small. The use of lab packs has since been expanded to include larger quantities of each waste stream, and to accommodate situations other than those found in laboratories — such as plant closings, inventory clean-ups, research and development areas, and municipal hazardous or special waste collections. Any situation where many chemicals need to be registered but are only present in relatively small quantities may warrant the use of the “lab pack” registration.

When registering and shipping lab packs, the waste characterization used should represent the “worst” waste that is included in the lab pack (i.e., the first waste characterization identified when following the waste characterization flowchart, Figure 3.3). For example, a lab pack may contain individual containers of hazardous wastes with waste characterizations such as I, B, C, T, and A. In this case, the lab packed waste would be registered with a waste characterization of “A” since this is the first waste characterization identified in the flowchart.

Generators must be aware of restrictions that apply to larger quantities of specific waste streams or larger total lab packs shipped for disposal. In particular, quantity and waste type restrictions apply to small quantity generators whose waste is subject to land disposal restrictions.

#### **Lab Packs and Generators with Small Quantity Exempt (SQE) waste**

In general, small quantity exempt (SQE) generators are not required to register or manifest their waste. However, if a generator uses a lab pack for SQE waste, the Ministry recommends that the generator register and classify the lab packs using waste classes 148 or 263. The registration should include the worst waste characterization for the wastes that are included in the lab pack, and the waste should be manifested on shipment to a certified carrier and receiver. In Part 2A of the GRR, the generator should enter the hazardous waste number that is appropriate for the most hazardous waste in the lab pack.

#### **Lab Packs and Small Quantity Generators (SQGs)**

Lab packs that come from a small quantity generator (SQG) and also meet the requirements of Section 80 of Regulation 347 (a properly labelled, sealed container) are not subject to LDR treatment requirements. In such cases, the Ministry recommends that generators register and classify the lab pack as 148 or 263, identifying the worst waste characterization for the wastes in the lab pack and manifesting it on shipment. Since the SQG exemption from meeting the LDR treatment standards does not apply to acute hazardous waste chemicals or severely toxic wastes, these wastes cannot be added to the lab pack, and must be dealt with separately. In Part 2A of the GRR, generators should enter the hazardous waste number that is appropriate for the most hazardous waste in the lab pack.

#### **Lab Packs and Large Quantity Generators**

Generators that have wastes that are subject to LDR, but do not meet the quantity requirements for Section 80 SQG provisions, or that have acute hazardous waste chemicals or severely toxic wastes, may still use lab packs to package their wastes. However, these lab-packed wastes are subject to all LDR requirements. Those requirements include reporting the hazardous waste number for each waste in the lab pack in Part 2B (the LDR notification form) of the GRR as primary and additional characterizations. Lab packs may be registered and classified as 148A, 263A or 242S, and manifested on shipment. Generators must also add the applicable regulated constituent for each hazardous waste placed in the lab pack.

Please note that providing the information requested in Part 2B of the GRR is a one-time notification requirement. Updates will be required if additional waste with different hazardous waste numbers are placed in the lab pack. For generators, the advantage of using lab packs is that one waste stream can be

registered for all the different wastes, rather registering and filling out Part 2A for each separate waste stream.

#### **Lab Packs that are not Land Disposed**

For lab packs that will not be land disposed, the lab packs may be registered and classified as 148A or 263A, and manifested on shipment. In Part 2A of the GRR, generators should enter the hazardous waste number appropriate for the most hazardous waste in the pack.

### **3.8 Determining Waste Streams at Waste Receiving Sites**

Determining and registering waste classes for waste streams is handled somewhat differently at waste receiving facilities such as waste transfer stations, waste processing sites and MHSW depots than at the facility where the wastes were originally generated. Since the receiving facilities can handle such a wide variety of wastes, and since their list of registered waste streams can become somewhat lengthy, a broader definition of "waste stream" may be used in accordance with the facility's C of A. While the receiving site still needs to register for each waste stream it accepts, the description of each waste stream can be more generic, allowing several different incoming waste streams with the same waste class to be included under the same outgoing waste stream registration.

For example, a facility may receive a number of different wastes, all identified by the waste class 113. Although these wastes may be from different processes at different facilities, the wastes may be bulked together and processed, or shipped off-site as a single waste stream, provided that they all fit within the 113 waste class and have similar characterizations, composition and treatment or disposal requirements.

For receiving facilities, an important consideration when you are registering waste streams is to determine if the wastes are compatible, both chemically and in terms of the required treatment method. Where wastes are chemically compatible, share treatment requirements, and have the same waste class, you may register them as a single waste stream. If the wastes have different waste classes, they can only be mixed and registered as a single waste stream if this is specifically allowed for those waste streams through your facility's C of A.

Restrictions on the mixing, blending, bulking and intermingling of hazardous wastes with other wastes or materials became effective in March 2006. As a result, the C of A for waste disposal sites and waste transportation systems must specifically authorize these operations to mix hazardous wastes with any other waste or material.

Another consideration for receiving facilities is the ability to use special consolidated waste stream classifications. The use of these special waste classes by waste receiving sites recognizes that certain waste streams may be routinely bulked or blended together, either for processing or to improve handling efficiencies, before the waste is shipped off-site for common treatment or disposal. The following four waste classes have been created to allow for such waste bulking: 254, 270, 281 and 282. Please note that the ability to bulk different waste streams must be recognized in the site's C of A.

## 4 HOW TO COMPLETE AND FILE A GENERATOR REGISTRATION REPORT

Generators of subject waste are required to register every year. If the annual registration is not renewed, it expires on February 15 of the next year. The waste generators may be the original generator, or subsequent generators such as transfer stations and processing facilities. Waste generators are responsible for assessing the waste(s) they produce and for complying with the province's generator registration and associated waste management requirements.

If registration of the hazardous waste is required, the generator must determine if the LDR program requirements apply for each waste stream produced. Section 5 of this manual provides an overview of the LDR program and Appendix I provides additional information on generator registration and LDR reporting requirements. Generators whose waste is subject to the LDR program should also refer to the handbook for additional details. The handbook is available on the Ministry's website at <http://www.ene.gov.on.ca/envision/land/hazardousWaste.htm>.

Once the generator has determined that registration is required and has compiled the necessary information (please see section 3 above of this manual), the required information must be provided to the Ministry. If the waste is subject to LDR, the generator is also responsible for providing specific information to the intended receiver of the waste. In this section of the manual, information is provided to guide generators through the process of completing the GRR, which can be done either electronically, on the Internet, or on paper.

If a generator manages waste off-site, the waste must be registered and manifested for shipment using an approved carrier and receiver. By contrast, if the waste is managed on-site, the facility must register and a C of A may be required (please see 6.1.2 of the manual).

Generators of subject waste are not only required to register their waste generation facilities, but also to pay the annual generator registration fee, as required by the "Minister's Requirement for Hazardous Waste Fees" (please see Appendix E of the manual). Details on calculating and paying the annual registration fee are provided in 4.1.5 of the manual.

HWIN is an on-line generator registration and manifesting system for generators, carriers and receivers of subject waste, which is accessible at <http://www.hwin.ca>. HWIN provides generators of subject waste with a convenient way to handle their annual registration and pay their annual registration fee. HWIN also makes it possible to use electronic manifesting to record and track the movement of subject waste from the generator through to final disposal. In addition, HWIN provides the generator of waste that is subject to LDR requirements with a convenient way of notifying the processor of the waste's LDR requirements.

Generator registration, manifesting and LDR notification requirements may also be completed on paper. A copy of the GRR can be downloaded from the Ministry's hazardous waste Rules and Regulations page, at <http://www.ene.gov.on.ca/envision/land/hazardouswaste.htm>, along with instructions on how to submit the report and pay the generator registration fee. Several examples of completed GRR are provided in Appendix B of the manual.

Generators who choose to submit their GRR on paper are advised to submit it as early as possible in the January 1 to February 15 registration period, to allow the Ministry the additional time needed to process paper registrations. Paper registrations will be processed in the order they are received, and any missing or incomplete information will delay their processing.

This section of the manual provides details on the information required for registration and manifesting. Since there are different procedures and forms used for registering and manifesting, depending on whether the generator is working on-line or on paper, specific “how to” instructions for each method are provided in Appendix B (for registration) and Appendix C (for manifesting).

If you have determined that you are a generator of subject waste (please see 3.1.2 of this manual), you must register your waste generation facility with the Ministry, using the generator registration procedures outlined in this manual. As part of the registration process, you will be creating a site profile that describes your site, the company’s officials and your subject wastes. Your site profile will then become part of your generator registration document.

Please note that you should not attempt to complete the generator registration process until you have followed the flowchart in 3.5.2 of this manual through to completion.

After initial registration, generators are required to submit a GRR annually between January 1 and February 15. In some cases, changes to the generator’s process or waste stream may require revisions to the site profile, by completing a supplementary generator registration at some point after the initial registration has occurred, and before the next annual registration is due (please see 4.3 of this manual for more details).

The following sections describe the information that generators must provide when registering with the Ministry. Additional information may be required for waste streams that are subject to LDR reporting and notification requirements. Please see Appendix I of the manual for additional information.

## **4.1 Initial Generator Registration**

This part of the manual describes all the information required by the Ministry for generators submitting their initial registration report, with explanations to help generators complete the registration process appropriately. Please note that, during the annual registration renewal process, generators will be asked to confirm the information they originally provided.

### **4.1.1 Part 1 – Generator Identification**

#### **(Generator) Registration Number**

Each waste generation facility that registers with the Ministry must have a generator registration number. For Ontario-based generators, the Ministry issues a unique generator registration number upon completion of the initial registration. For waste generation facilities based outside Ontario, the ministry uses the registration or notification number assigned by the facility’s local environmental authority.

#### **Legal Company Name and Company Operating Name**

You must register your company’s full legally registered name, as well as the company’s full operating name, if this is different from the legal name, the company’s full operating name.

#### **Mailing Address**

You must provide your company’s full mailing address (i.e., street name, number and postal code).

## Site Location

You must complete a separate registration with the Ministry for each site where your wastes are generated. The definition of a “site” is provided in Regulation 347, and means one property (including nearby properties that are owned or leased by the same person or company, where passage from one property to the next involves crossing but not traveling along a public highway). The town/city refers to the local municipality (i.e., the city, town, village or township, as opposed to a post office location, county or regional municipality).

For administrative reasons, the Ministry requires you to identify the county where your waste generation facility is located. In this sense, the county means the geographic location, which in Ontario may be designated as a district, county or municipality. The county is a mandatory field on the GRR form, and must be selected from the list below.

Please note that this list of geographic areas is based on the latest information provided to the Ministry of Municipal Affairs and Housing. Generators should select the most appropriate county based on either the current or historical name that best describes the location of their waste generation facility. If you are unsure, please verify the information by contacting municipalities directly to confirm official municipal names.

ALGOMA	KAWARTHA LAKES	PEEL
BRANT	KENORA	PERTH
BRUCE	LAMBTON	PETERBOROUGH
CHATHAM-KENT	LANARK	PRESCOTT & RUSSELL
COCHRANE	LEEDS & GRENVILLE	PRINCE EDWARD
DUFFERIN	LENNOX AND ADDINGTON	RAINY RIVER
DURHAM	MANITOULIN	RENFREW
ELGIN	MIDDLESEX	SIMCOE
ESSEX	MUSKOKA	STORMONT DUNDAS AND GLENGARRY
FRONTENAC	NIAGARA	SUDBURY
GREY	NIPISSING	THUNDER BAY
HALDIMAND	NORFOLK	TIMISKAMING
HALIBURTON	NORTHUMBERLAND	TORONTO
HALTON	OTTAWA	WATERLOO
HAMILTON	OXFORD	WELLINGTON
HASTINGS	PARRY SOUND	YORK
HURON		

## Company Official

The company official is the individual who is responsible for managing, or is responsible for staff that manages the hazardous waste and LIW at the generation facility. This official also serves as the HWIN Administrator for the waste generation site. You will need to create a user name and password in order to access the HWIN system online. Each user in the HWIN system must have a unique user name, and if you create a user name that has already been used, the HWIN system will alert you and ask you to choose another user name.

## Additional HWIN Administrator

The company official may also delegate HWIN responsibilities to other individuals (i.e., additional HWIN Administrators). For each administrator, you will need to create a user name and password in order to access the HWIN system online.

### **Contact Person**

You need to select the “Company Official” or the “Additional HWIN Administrator” as the contact person for registration purposes. This person should be familiar with all the wastes for which they have management responsibility, should be able to answer technical questions relating to the GRR, and also be able to provide assistance in the event of an emergency. HWIN requires you to designate one person as the contact person who will receive all HWIN e-mail messages.

### **North American Industry Classification System (NAICS) Codes**

For administrative reasons, it is necessary to identify the industry sectors that the generators represent, and the Ministry uses the North American Industry Classification System (NAICS) for this purpose. Accordingly, you should enter the six-digit NAICS code for the facility at the site location identified. While more than one NAICS code may apply to a particular facility, generators should enter the primary NAICS code during registration and, if necessary, up to two additional codes. A list of NAICS codes currently in use by Statistics Canada is included in Appendix B of this manual. You can also use the link provided on the HWIN website for a list of NAICS codes (<https://www.hwin.ca/hwin/NAICS1.html>).

For a complete description of NAICS codes and further information, visit Statistics Canada’s website at: <http://www.statcan.ca/english/Subjects/Standard/naics/2002/naics02-menu.htm>

### **Ontario Liquid Industrial/Hazardous Waste Receiver Sites**

Transfer and processing facilities that are approved to receive subject waste and then ship it off-site are required to register as generators. If you are such a facility you must indicate “Yes” during the registration process and provide your C of A number. Most generators in Ontario are not approved as waste receivers. Accordingly, the Ministry will review your registration to confirm that the information is correct.

### **On-site Management**

As part of the registration process, you must indicate if your company stores, processes or disposes of subject waste on-site. Please note that on-site management does not include temporary storage or the blending, bulking or mixing of wastes. Generators should only enter “Yes” on this part of the registration form if they will be registering a waste as stored (i.e., PCB waste, or waste that is being stored in accordance with a C of A), processed (i.e., treated) or disposed of (e.g., incinerated or landfilled) on-site.

### **Municipal Hazardous or Special Waste (MHSW) Depots and Contaminated Site Remediation**

MHSW depots and contaminated sites that generate remediation waste need to be registered, and any subject waste that leaves the site needs to be manifested. However, MHSW depots and contaminated sites that generate remediation waste are not required to pay the annual generator registration fee. Most generators in Ontario are not an operator of an MHSW depot or contaminated site, and as such, the Ministry will review your registration to confirm that the provided information is correct.

#### *MHSW Depots*

If your site is an MHSW (formerly HHW) depot, and is operated by or exclusively for a municipality or the Crown, please contact the HWIN Help Desk at 1-866-494-6663 to obtain the generator registration fee exemption. The owner or operator of the MHSW depots should be prepared to provide a copy of their C of A (Waste Disposal Site) showing approval to operate the depot at the specific site address.



### Contaminated Site Remediation

If the site is a contaminated Ontario site and all your waste results from activities that were carried on at the site for the purpose of remediating contaminated soil or other contaminated materials located on, in, or under the site, please contact the Help Desk to obtain the generator registration fee exemption. In some cases, a site that generates subject waste as part of its normal operations may also be a contaminated site. In this case, you should use your regular generator registration number on the manifest when shipping the wastes from the operation, and obtain a separate generator registration number with the approved Contaminated Site status for use on the manifest when shipping the remediation wastes off-site.

The owner or operator of the site should be prepared to provide supporting documentation that shows the site address, reasons for remediation, sources of contamination, types of wastes generated, expected duration of project, etc. The Ministry has accepted a Phase II or Phase III environmental assessment report, a consultant's proposal or an MOE Order to clean up the site.

#### **4.1.2 Part 2A – Waste Identification (Active Waste Classes)**

For each subject waste generated at the waste generation facility, you must identify if the waste is being stored or processed on-site, disposed of on-site or shipped off-site. Where the waste is processed on-site, you may need to register the wastes that entered the process, the processed waste and any residuals from the processing. How the waste is registered depends on its waste characterization, whether it is to be land disposed, and whether it has received any treatment. Figures 3.5 or 3.6 of the manual will help you to determine if you need to register your waste. Figure 4.1 provides a flowchart to help you to identify how each of your subject wastes should be registered.

#### **Waste Class**

Provide the waste class that you identified during your waste characterization (please see 3.7 of the manual). The Ontario waste class is a three-digit number (e.g., 263, 121, etc.).

#### **Primary Characterization**

In this section of the registration document, you must enter the primary characterization that you identified when you characterized your waste (please see 3.4 of the manual). The primary characterization is the first characterization of a waste found when you follow the waste characterization flowchart (e.g., A, B, C, etc.). If you are registering a de-characterized waste that will be land disposed, and the waste is no longer hazardous but remains subject waste (i.e., regulated constituents in Schedule 6 of Regulation 347 still require treatment before land disposal), the primary characterization is U.

#### **Waste Number**

The waste number consists of the three-digit number (Ontario waste class) plus a single letter (primary waste characterization), (e.g., 263A, 121L, etc.).

#### **Description of Waste (Waste Type)**

You must provide a general description of your waste and, where appropriate, include details such as the colour, principal components, contaminants and contaminant concentrations in the waste.

#### **Description of Generating Process**

As part of the registration process, the Ministry requires you to provide a general description of the generating process for the subject waste. Where applicable, you should include details such as a generic process name, feed materials and products. If your waste is generated by pollution control equipment, you should provide a description of the process or operation that generated the discharge or emission.

### **Hazardous Waste Number**

From the schedules provided in Appendix A of this manual, you will need to obtain the primary hazardous waste number that best describes your waste stream. This is the entry in the first column of each schedule (e.g., F007 for spent cyanide plating bath solution from electroplating operations). The hazardous waste number must be entered for all wastes with a primary characterization other than D, P or L. If your waste has more than one characterization, you should use the hazardous waste number associated with the primary characterization. If you are registering a de-characterized waste, you should use the original hazardous waste number for the untreated waste.

### **Physical State**

Describe the physical state of the waste stream (i.e., either solid, liquid or gaseous).

### **Specific Gravity**

If the physical state of the waste is liquid, you must provide the specific gravity of the waste stream.

### **On-Site Waste Management**

Registration of waste streams under on-site waste management activities must be completed only if you are managing the subject waste on-site and your waste generation facility is located in Ontario. On-site waste management activities include on-site storage, processing and disposal of a waste stream — all at the location where the waste was generated. These activities have been divided into two groups to facilitate generator registration and fee payments: 1) On-site Processing and Storage, and 2) On-site Disposal. Please note that a waste stream may need to be registered under both groups of activities (e.g., waste is processed on-site and also disposed of on-site); or registered as an on-site activity and as an off-site activity (e.g., processing takes place on-site and disposal takes place off-site).

#### *On-site Processing and Storage*

A waste stream that is managed on-site using any of the following activities must be registered under On-site Processing and Storage:

1. Storage (PCBs, or subject waste in accordance with a C of A)
2. Processing (Part V approved)
3. Processing (Part V exempt, pursuant to Section 17.1 of Regulation 347).

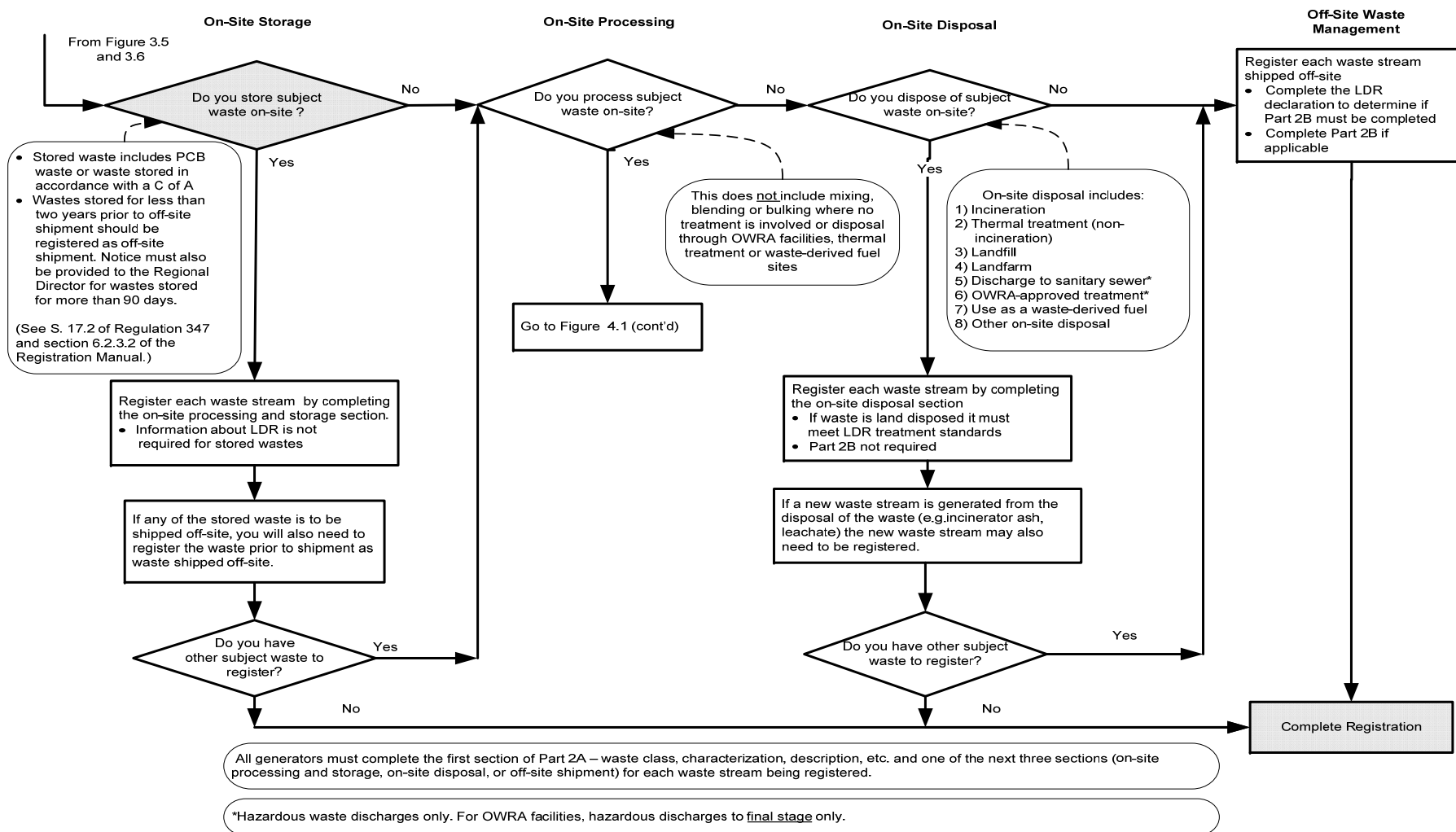
Generators who store PCB waste and subject waste that requires a C of A for storage (i.e., storage for more than two years) on-site must register them under On-site Storage. Generators who register stored wastes must provide the PCB storage site approval number or the C of A number that authorizes the storage of the waste.

For subject wastes that are stored on-site for more than 90 days, generators are required to submit a “Notice of the storage of subject waste” to the Ministry, in accordance with the requirements of Section 17.2 of Regulation 347. This form is available on the ministry’s website at [www.ene.gov.on.ca](http://www.ene.gov.on.ca). On-site storage of subject waste for less than two years should not be registered as on-site storage, unless a C of A has been issued for storage of the waste. Waste that is temporarily stored on-site should be registered as an off-site waste stream or other on-site waste management activity, as applicable.

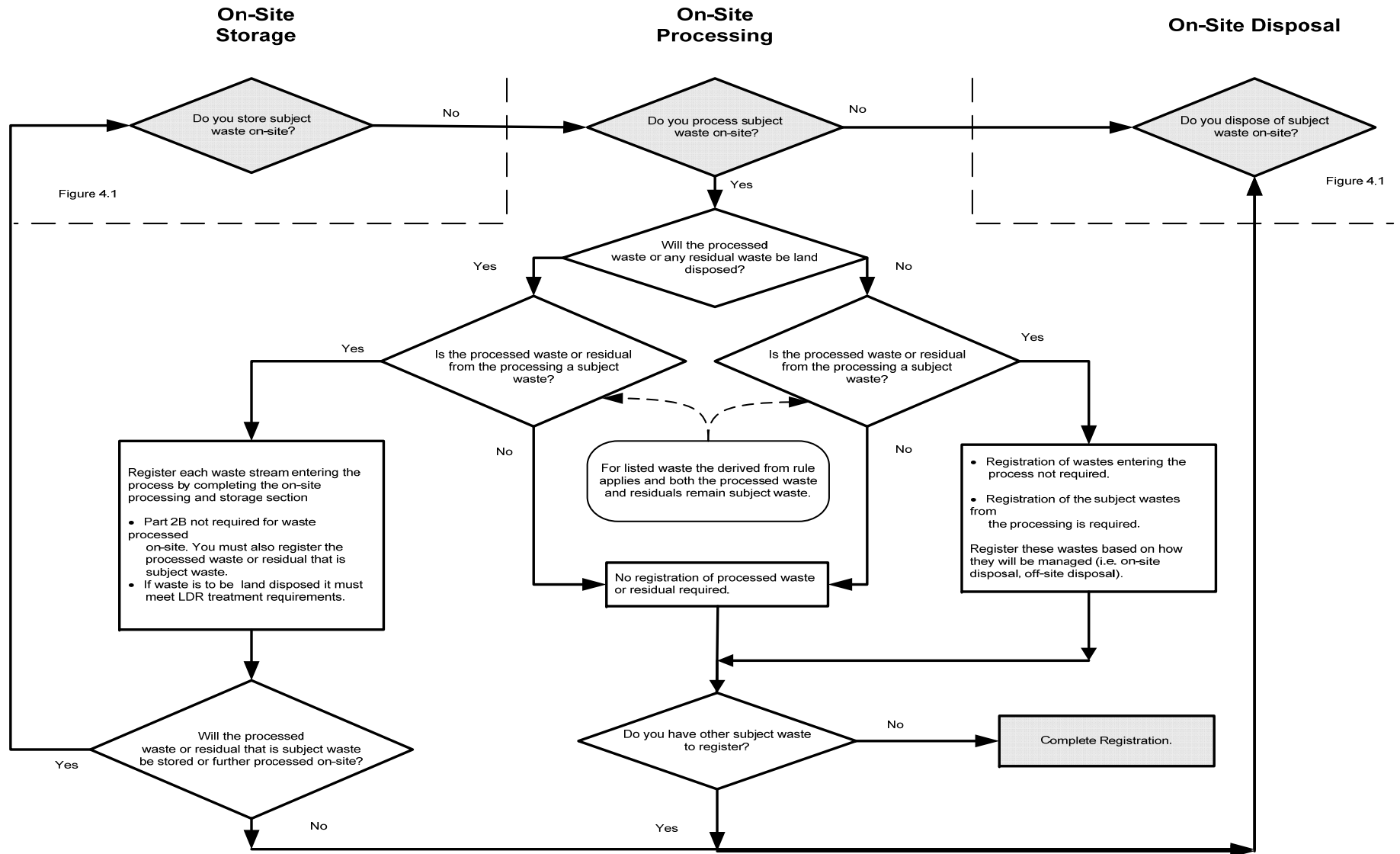
Generators who process subject waste on-site must register it under On-site Processing if:

1. The subject waste is processed such that the processed waste remains a subject waste, or
2. The residual from the processing of the waste is a subject waste.

**Figure 4.1: How to Complete Part 2 of the Waste Generator Registration Process**



**Figure 4.1: How to Complete Part 2 of the Waste Generator Registration Process (cont'd)**



Registration of a subject waste is not required if the waste is processed on-site, and as a result of the processing it is no longer a subject waste, and any residual from the processing is not a subject waste.

A subject waste that is processed on-site by any activity that changes the nature of the waste must be registered under On-site Processing. This requirement includes activities such as mixing of different types of waste to carry out treatment (e.g., mixing an acid and a base to effect neutralization), and activities that involve adding other materials to treat the waste (e.g., chemical oxidation). Processing does not include mixing of like wastes where there is no change in the nature of the waste. If subject wastes are mixed in accordance with a C of A and no processing takes place, the mixed waste should not be registered under On-site Processing.

If a C of A is required for on-site processing of a subject waste, the waste must be registered under On-site Processing (please see 6.1.2 of the manual for information about when a C of A is required to process waste on-site). Processing does not include the activities listed under On-site Disposal in the following subsection (e.g., incineration, OWRA facility, etc.).

Generators who process subject waste on-site must identify whether the processing was carried out in accordance with a C of A (Part V approval) or if the processing did not require a C of A in accordance with Section 17.1 of Regulation 347. If a C of A was issued for on-site waste management activities, the generator must provide the C of A number.

Activities that do not need to be registered as on-site waste management activities include on-site waste handling, temporary storage (i.e., where a C of A is not required), bulking of like wastes prior to treatment or disposal, and waste transfer to a waste transportation vehicle.

If either the processed waste or the residual from the waste processing is a subject waste, the generator must register each processed or residual waste stream, according to how it will be managed. If the subject waste is to be shipped off-site or further managed on-site after processing, the generator must add the waste number for the processed waste or residual to each waste stream that was registered under On-site Processing.

The waste number for the processed waste or residual may be the same as the waste number for the waste at the point of generation, or may be different. For example, where more than one waste is processed on-site using the same treatment method, and the resulting processed waste is a subject waste, the generator must:

1. Register each of the waste streams under On-site Processing
2. Register the resulting subject waste, and
3. Add the waste number for the resulting subject waste to all of the waste streams that were registered under On-site Processing.

Generators who process hazardous waste on-site are not required to provide information with respect to the land disposal treatment requirements when they register a waste stream under On-site Processing and Storage. However, this information may be required when a subject waste is registered for off-site shipment. Generators who process listed wastes and characteristic wastes on-site may be subject to LDR requirements, including the requirement for a waste analysis plan. The generator may also be subject to LDR notification requirements pursuant to Section 84 for a waste stream registered under on-site processing, if a characteristic waste was processed to meet the land disposal treatment requirements and will be disposed of off-site (please see 5.8 of the manual).

The actual quantity of waste managed on-site in the previous calendar year and the estimated quantity for the current calendar year must be identified for wastes processed or stored on-site. The tonnage component of the generator registration fee is not charged for wastes that are processed or stored on-site. This fee component is charged only when a hazardous waste is shipped off-site or disposed of on-site. Accordingly, if a characteristic waste is processed on-site so that it is no longer a subject waste, and if the waste is registered as a subject waste being processed on-site, there is no tonnage component in the applicable generator registration fee.

#### On-site Disposal

A waste stream that is managed on-site using any of the following activities must be registered under On-site Disposal:

1. Incineration
2. Thermal treatment (non-incineration)
3. Landfill
4. Landfarm
5. Discharge to sanitary sewer (hazardous discharges only)
6. OWRA approved on-site treatment (hazardous discharges to final stage only)
7. Use as a waste-derived fuel
8. Other on-site disposal (the generator must identify the disposal method).

If a subject waste is processed on-site prior to on-site disposal, the waste must also be registered under On-site Processing and Storage. Please note that only hazardous waste discharges to sanitary sewers and OWRA-approved treatment facilities (final stage only) must be registered.

If a C of A has been issued for on-site disposal of the waste (e.g., thermal treatment, landfill, etc.), the generator must provide the C of A number. The actual quantity of waste disposed of on-site in the previous calendar year and the estimated quantity for the current calendar year must also be identified. This information is used to calculate the tonnage component of the generator registration fee for on-site disposal of hazardous waste.

If the waste stream that is being disposed of on-site was a listed waste or characteristic waste at the point of generation (i.e., all wastes except those with the primary characterizations of L, D and P) and the waste will be land disposed, the generator must confirm that the on-site activities were conducted in accordance with Ontario's LDR requirements (i.e., meeting the land disposal treatment requirements and preparing a waste analysis plan).

There may be cases where a residual resulting from one of the disposal practices above is a subject waste (e.g., residue from the incineration of hazardous waste or from an OWRA-approved facility) that requires further management, either on- or off-site. In such cases, if a subject waste is to be shipped off-site or further processed or disposed of on-site, it must be separately registered as a new waste stream. However, since the tonnage component of the generator registration fee has already been applied to the waste, the Ministry will not apply the tonnage component of the fee to the off-site shipment. If this is the case at your facility, please contact the HWIN Help Desk for assistance.

#### **Off-site Waste Management**

This section of the GRR must be completed for all waste streams that will be shipped off-site. Generators are required to respond to a series of questions to determine if they must complete Part 2B of generator registration (LDR notification form) for a particular waste stream. The generator may determine by answering these questions that Part 2B does not need to be completed for the waste stream. If so,

additional information (e.g., C of A number) should be provided where indicated. The “Declaration regarding wastes that are subject to LDR” is not required for wastes that are registered in the on-site modules above. The generator questions that help to determine if the completion of Part 2B is required are provided in flowchart format in Figure 4.2. Written instructions for this declaration can also be found in Appendix J of the manual.

All generators who produce a listed waste or characteristic waste that will be land disposed are required to fill in the LDR portion of the GRR (Part 2B). Part 2B has been designed so that it not only meets generator registration requirements, but can also be provided by the generator to the receiver to meet the notification requirements of Section 84 of Regulation 347.

Generators are responsible for identifying whether or not their waste is subject to the LDR requirements when they register each waste stream. Although a generator may ask the receiver or carrier of the waste how the waste will be managed and whether it will be land disposed, it is the generator who must determine whether the LDR requirements apply. If generators are uncertain about whether the LDR requirements apply, they should complete Part 2B of the GRR (LDR notification form) and forward the information to the receiver of the waste.

#### **4.1.3 Part 2B – Land Disposal Restrictions Notification Form**

Generators who produce subject waste that is listed waste or characteristic waste that will be shipped off-site for land disposal must complete the LDR notification form (Part 2B of the GRR). Please see Appendix I of the manual for additional information.

A separate Part 2B form must be completed for each subject waste stream that is generated at the facility and will be land disposed, or where the final disposition of the waste is unknown. Once the Part 2B form has been completed, it is the generator’s responsibility to provide the information in the form to the initial receiver of the waste, in accordance with Section 84 of Regulation 347. The LDR notification requirement can be met by providing a copy of the Part 2B form to the receiver, or by providing the required information in a different format.

Several examples of completed Part 2B paper registration forms are included in Appendix B of the manual. Generators may also find it helpful to review these examples before completing their generator registration documents electronically in HWIN.

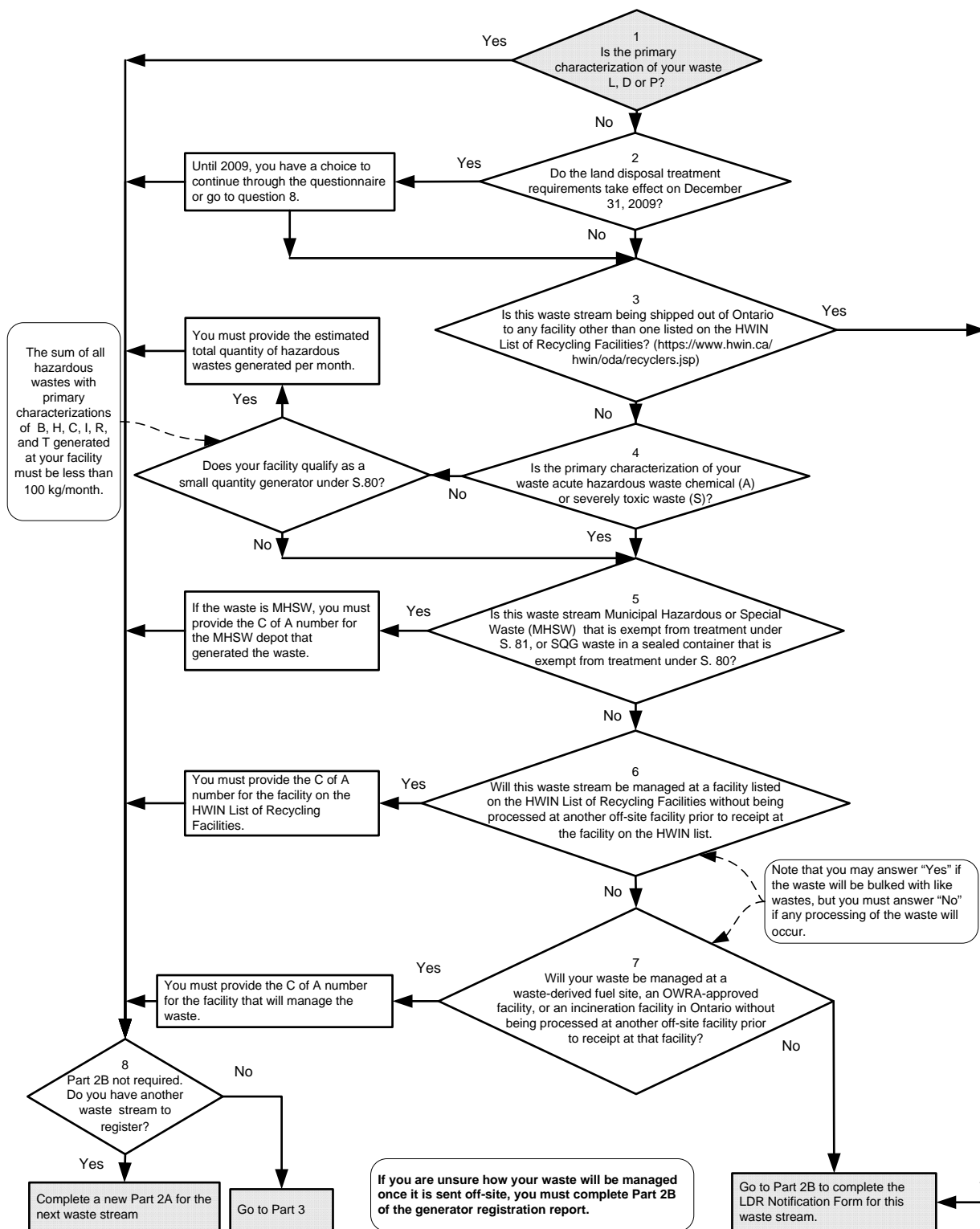
#### **Aqueous or Non-aqueous Waste**

Aqueous wastes are wastes that contain less than one per cent total organic carbon by weight, and less than one per cent total suspended solids by weight. Non-aqueous wastes are wastes that do not meet the criteria for aqueous wastes. You must identify if your waste is aqueous or non-aqueous.

#### **Alternate Treatment Standards**

For wastes that are soil or soil mixtures or debris or debris mixtures, generators may choose to meet the alternate treatment standards. If this is your preferred option, you must indicate that alternate treatment standards apply, and indicate whether your waste is a soil or a soil mixture or a debris or a debris mixture. If you indicate that your waste is a debris or a debris mixture, you must indicate what type of debris or debris mixture it is. The types of debris include glass, metal, plastic, rubber, brick, cloth, concrete, paper, pavement, rock, and wood. If the waste is a mixture of debris types, you must list all the types of debris in the mixture.

**Figure 4.2 – Declaration of Waste Streams Subject to Land Disposal Restrictions**





## Hazardous Waste Numbers

When characterizing your waste stream (please see 3 above of this manual) you may have identified multiple characterizations (i.e., the waste may have more than one waste characterization, for example H and T). For each waste characterization, you must enter the following information:

- Hazardous waste number(s)
- For each hazardous waste number, the generic name and associated CAS number if the waste is listed in Part A or Part B of Schedules 2, Schedule 3, or Schedule 5 of Regulation 347; or a description of the waste if the waste is listed in Schedule 1 of Regulation 347, and
- The treatment sub-category (if applicable).

If you are completing generator registration through the HWIN system, this information will be generated as much as possible from the hazardous waste number(s) entered. Any waste generation facility that mixes wastes that are subject to LDR in accordance with Regulation 347 or applicable C of A, must identify all hazardous waste numbers for each individual waste that entered the combined waste stream.

Some facilities (e.g., transfer stations) bulk similar wastes together that are subject to LDR, and send the bulked waste to a receiver. These facilities must report in the Part 2B form for their operation all of the hazardous waste numbers from the incoming LDR notification forms that they received from generators for each of the wastes that are bulked together.

Similarly, a processing facility that mixes LDR wastes before treatment to meet land disposal treatment requirements must report in its LDR notification form all hazardous waste numbers from the incoming LDR notification forms that were received from generators for the wastes that were mixed.

Failure to report all hazardous waste numbers from the incoming wastes when registering a waste that is made up of mixed, blended, bulked, or processed wastes could constitute dilution (please see 6.1 of the manual for more information on when like wastes can be bulked).

Examples of completed Part 2B paper forms for listed waste and characteristic waste, with both numerical and technology-based standards, and for the use of alternate treatment standards, are provided in Appendix B.

## Regulated Constituents

Generators must provide additional information in this section of the Part 2B form for all listed wastes in Schedule 1, Part A or Part B of Schedule 2 and Schedule 3 and for all characteristic wastes in Schedule 5. For each hazardous waste number, you must list all regulated constituents (i.e., each constituent with a treatment standard) that are known or expected to be present at concentrations at or above the standard at the point of generation. For most characteristic wastes, beginning December 31, 2009, this requirement includes all regulated constituents listed in Schedule 6 of Regulation 347 that may require treatment. You must also specify the type of characteristic wastes (e.g., corrosivity, ignitability, etc.) in this section.

If you are registering through the HWIN system, the system will provide you with a drop-down menu from which you can select the regulated constituents. The choices in each drop-down menu are based on the hazardous waste number(s) you have already entered.

For listed wastes, generators may be registering either a treated or untreated waste. Accordingly, you must list all of the regulated constituents with concentrations at or above the treatment requirements that are or were present in the waste before treatment.

For characteristic wastes, generators may be registering an untreated waste, a waste that has been treated to address only its hazardous characteristic, or a waste that has been treated to address both the hazardous characteristic and all other regulated constituents in Schedule 6. In all cases, you are required to list all of the regulated constituents with concentrations at or above the treatment requirements that are or were present in the waste before treatment, as well as the type of characteristic(s) that required treatment.

If wastes have been bulked, blended, or mixed before processing, the regulated constituents from all the incoming wastes must be identified for the resulting waste that is being shipped off-site — even if the bulking, blending or mixing process diluted any of the constituent concentrations below the treatment standard.

If the waste generation facility is a transfer station or processing facility, and all regulated constituents will be monitored to ensure that the treatment standards have been met, you may enter “all” under the heading of “regulated constituents” for each hazardous waste number. If a processing facility partially treats LDR waste, then you cannot enter “all” in this field, since you are required to identify the regulated constituents that have been treated and those that still require treatment individually.

The final column in this section of the Part 2B form enables the generator to identify which regulated constituents in the waste have been treated to meet the land disposal treatment requirement. You must enter “Yes” or “No” for each constituent or characteristic that is listed.

#### **Variance from a Treatment Standard**

Most generators will not need to complete this part of the LDR notification form, which must be completed only if the Ministry has issued a variance for a particular waste stream. Variances are explained in 5.9 of this manual. Approval for a variance from a treatment standard may be provided through a C of A for the generator or receiver of the waste, through a Director’s letter of equivalent treatment, or through a regulatory exemption.

If the Ministry has granted a variance for the waste stream, the generator must identify the approval number for the variance that amended the treatment standard. If the variance is time-limited, the time limits of the variance must also be provided. Similarly, if an equivalent method of treatment has been approved, the approved treatment method must be identified. The generator should also check to ensure that the receiver has a copy of the variance.

#### **Confirmation of Treatment Status**

To identify the treatment status of the waste stream that will be shipped off-site, generators should choose the appropriate statement from the following list:

For characteristic wastes, choose one of the following:

- a) Waste has been fully treated to remove the hazardous characteristic and meets the underlying hazardous constituent (UHC) standards in Schedule 6
- b) Waste has been partially treated for the regulated constituents identified above and will be shipped off-site for further treatment
- c) Waste has been treated to remove the hazardous characteristic, but requires further treatment to meet the underlying hazardous constituent (UHC) standards in Schedule 6 for UHC(s) identified above
- d) Waste is being sent off-site to meet the land disposal treatment requirements for the regulated constituents identified above
- e) Waste is being shipped out of Ontario.

For listed wastes, mixtures that include a listed waste, or waste derived from a listed waste, choose one of the following:

- a) Waste has been partially treated for the regulated constituents identified above and will be shipped off-site for further treatment
- b) Waste has been treated and meets the land disposal treatment requirements for regulated constituents identified above
- c) Waste has no regulated constituents present or all regulated constituents are already below the land disposal treatment requirements
- d) Waste is being sent off-site to meet the land disposal treatment requirements for the regulated constituents identified above
- e) Waste is being shipped out of Ontario.

Although completion of Part 2B meets generator registration requirements for LDR wastes, the information in Part 2B must be sent to the facility that will receive the waste, where notification is required for subject wastes (please see Section 5.8 of the manual for more information on LDR notification requirements).

#### **4.1.4 Part 3 – Request for Information**

The Ministry gathers information about the amount of hazardous waste in Ontario that is recycled—and particularly hazardous waste that is not tracked through the generator registration process. However, reporting the amount of hazardous waste you recycle (i.e., waste that is exempt through subsection 3 (2) of Regulation 347) is voluntary, and not a regulatory requirement. In Part 3 of the GRR, the Ministry therefore asks you to report the type of hazardous waste that you generate (description) every year and the amount of this waste that is recycled. Please do not include information in Part 3 on the quantities of non-hazardous waste that are recycled.

An example of waste recycling that could be reported in this part of the registration form is pickle liquor that is transferred to a sewage works subject to the OWRA for use as a treatment chemical. If this waste is managed according to the criteria of subparagraph 6.i. of subsection 3 (2) of Regulation 347, registration and manifesting is not required. However, the Ministry would still like to know how much of this waste is being recycled every year.

#### **4.1.5 Part 4 - Payment of the Generator Registration Fee**

Generators of subject waste are required to register their waste generation facilities and pay the annual generator registration fee, as required by the “Minister's Requirement for Hazardous Waste Fees” (please see Appendix E). The details of how to calculate and pay the appropriate fee are outlined in this section of the manual.

When subject waste is generated at a facility, the generator must register. Generators are required to register every year and the registration remains valid until February 15 of the next year. Once a facility has been registered for the first time, annual registration is required for every year in which subject waste is generated. Annual registration takes place between January 1 and February 15. Please see 3.1.3 of the manual for a discussion of when a waste is generated.

For each annual GRR, including the initial report, the registration fee is calculated by adding three components together:

1. A \$50 base fee
2. A fee of \$5 per manifest used during the calendar year in which the report is submitted (this is called the manifest component)
3. A fee of \$10 per tonne of hazardous waste generated during the calendar year (this is called the tonnage component).

All sites that generate subject waste are required to pay the \$50 base fee on registration, with the following exceptions:

1. MHSW (formally HHW) facilities that are operated by or exclusively for a municipality or the Crown, where the subject wastes being registered are limited to household hazardous or special waste received at the facility
2. Contaminated sites in Ontario, where subject waste resulting from site remediation activities is being registered.

MHSW facilities and contaminated sites are also exempt from the other two fee components. Please note that although they are exempt from paying the registration fee, they are still required to register annually with the Ministry.

The amount a generator is required to pay for the manifest and tonnage components of the registration fee will vary from facility to facility, and a range of payment options is available to accommodate the circumstances of each generator.

The tonnage component of the fee applies only to hazardous waste, and is pro-rated for partial tonnages. No tonnage component is applied to:

1. On-site storage or processing of hazardous wastes
2. Liquid industrial wastes
3. Hazardous waste being recycled at a facility listed on the HWIN List of Recycling Facilities that meets the waste stream restrictions for that facility. A list of acceptable recycling facilities is provided on the HWIN website at (<https://www.hwin.ca/hwin/oda/recyclers.jsp>). Recycling facilities identified on the website are considered as recycling only in relation to the tonnage component of the fee, and should not be confused with any other Ministry requirements or policies related to recycling (i.e., these facilities are not exempt according to Section 3 of Regulation 347).
4. Hazardous waste, including stored, mixed, or processed hazardous waste that has been previously subject to the tonnage component. In other words, waste transferred through a transfer station in Ontario is exempt from the tonnage component, while waste from a transfer station in another jurisdiction would not be exempt from the tonnage component.
5. De-characterized waste that is being shipped off-site to treat the underlying regulated constituents in Schedule 6 of Regulation 347.

Because the annual generator registration is only valid until February 15 of the following year, you must renew your registration every year by February 15 to remain registered. The \$50 base fee and any outstanding fee balance from the previous year's activities are payable at the time of renewal.

#### **4.1.5.1 Fee Payment**

The Ministry requires the base fee of \$50 to be paid when completing registration by February 15 of each year. During the year, you must keep enough funds in your HWIN account to allow for the timely payment of the variable components of the fee associated with your shipments of subject waste. You should not ship subject waste if your account does not have sufficient funds to cover the associated fee.

In situations where an emergency generator number (EGN) that consists of an “ONS” number specific to the MOE district, and a unique incident report number has been obtained through the Ministry’s Spills Action Centre, the Ministry will not charge a generator registration fee.

##### *Fee Payment Option 1: Payment in Advance*

The generator registration fee may be paid in advance at the time of annual registration. This payment option may prove more convenient and reduce your time and administrative effort. If you choose to pay the registration fee in advance, the fee payable is the sum of the \$50 base fee plus your estimate of the number of manifests you will use, and the tonnage of hazardous waste you will generate during the calendar year. Most generators base their estimate on activities from the previous year. If the number of waste manifests and quantity of hazardous waste shipped throughout the year is more than the initial forecast, you will be required to provide additional funds to cover the variable components of the fee associated with these additional shipments of the remaining waste. These additional funds (i.e., manifest and tonnage component) need to be paid in full before you can submit your GRR for the following year.

To estimate your payment in advance on or before Feb 15, it may be helpful to use the following formula:

$$\text{Fee} = \$50 \text{ at registration} + [(\$5 \times \text{estimated number of manifests forecasted for coming year}) + (\$10 \times \text{estimated number of tonnes of hazardous waste forecasted for coming year})].$$

The sum of the three components should be added to your prepaid account.

##### *Fee Payment Option 2: Payment throughout the Year*

If you choose this option, the \$50 base fee must be paid at the time of annual registration. After that, sufficient funds to cover the manifest and the tonnage components of the fee must be added to the pre-paid account before any waste is managed either on- or off-site.

##### *Methods of Fee Payment*

The current methods of payment available are by credit card (Visa, Master Card or American Express) or by cheque, payable to “Minister of Finance.”

##### *Payment by Credit Card*

For credit card payments, please refer to the appropriate menu option after logging into HWIN, or choose the correct payment option on the paper copy of the GRR. Please contact the HWIN Help Desk at 1-866-494-6663 for other options regarding credit card payments.

##### *Payment by Cheque*

Cheques may be mailed to the Ministry (payable to “Minister of Finance”) at any time of the year. Please include your Generator Registration Number on the cheque so that the funds can be deposited to the

appropriate pre-paid account. A receipt will be e-mailed to the main contact you have identified when the funds are deposited.

#### Reconciliation of Fees

Where the fee paid for the year is less than the actual fee owed, the difference must be paid before registration can be completed in the following year. Where the fee paid for the year is greater than the actual fee owed, the amount will be maintained in the pre-paid account for use over the following year.

#### **4.1.5.2 HWIN List of Recycling Facilities**

The HWIN List of Recycling Facilities includes facilities that process wastes to recover some portion of the material. The activities carried on at these facilities do not meet the requirements of Section 3 of Regulation 347 for an exemption, but the Ministry considers the material recovery that takes place at these recycling facilities to be beneficial.

Wastes that are sent to a facility on the HWIN List of Recycling Facilities must be registered. Facilities that are on the HWIN List of Recycling Facilities that receive wastes from off-site are required to have a Part V waste approval (inside Ontario) or other permit (outside Ontario) to carry on their operation.

#### Tonnage component Exemption

Under the provisions of the Minister's Requirement for Hazardous Waste Fees, generators that transport eligible wastes to one of the recycling facilities listed on the HWIN List of Recycling Facilities (<https://www.hwin.ca/hwin/oda/recyclers.jsp>) are exempt from paying the tonnage component (i.e., \$10 per tonne) of the generator registration fee (see Appendix E, section 2B). Every generator is still responsible for payment of the base fee of \$50 per year, as well as the manifest component of the fee (\$5 for every manifest used).

#### **4.1.5.3 Application to be on the HWIN List of Recycling Facilities**

To be considered for inclusion on the HWIN List of Recycling Facilities, a waste management facility must submit a written request to the Ministry. The request should contain enough information for the Ministry to evaluate the recycling operation at the facility, and to determine if the waste classes received are eligible for the tonnage component exemption. Further details about the information that should be provided are presented below.

Revisions to the HWIN List of Recycling Facilities are posted twice a year (or more often, as needed), and the exemption from the tonnage component of the fee is applicable to the acceptable waste classes from the time of posting.

The rationale for considering a waste to be recycled is either that it is being processed to recover a usable material, or that it is being regenerated. To be eligible for consideration as recycled waste, the waste must be received from a registered generator. Some examples of recycled waste include:

- The recovery of metal from hazardous wastes such as spent batteries, photographic wastes, spent catalysts and PCB-contaminated electrical equipment

- The regeneration of spent solvents
- The re-refining of used oil.

The Ministry does not consider the use of waste for fuel as recycling, and as a result, facilities that use waste for fuel are not eligible for exemption from the tonnage portion of the generator registration fee. The recycling facility must have a Part V C of A (in Ontario) or other permit (outside Ontario) issued by the environmental regulator in the host jurisdiction. In the U.S., if the facility is operating under an exemption (for example 40CFR 261.2 (e) (i)), secondary materials used directly as an ingredient or feedstock are not solid waste), the generator should provide a letter for a “request for a determination of the regulatory status” from the regulatory body.

#### **Additional considerations**

- A numerical recovery target is not used as an indicator of recycling, since the number, which depends on the type of waste and the recycling process being used, could vary significantly. Previous manifest data (waste type and quantities received, waste types and quantities shipped out), however, are tabulated and reviewed.

#### **The following information is requested from the recycling facility for Ministry review:**

- A description of the waste and the waste number that has been used in manifesting the waste. If a Material Safety Data Sheet is available, please supply a copy.
- Are other wastes that are not recycled being received at the facility? If so, please provide a list and description of the wastes received at the facility that are not being recycled. Restrictions may be made on the wastes that are received at the facility and considered to be recycled.
- The C of A number (in the case of Ontario facilities) or the applicable permit number that was issued by the environmental regulator in the host jurisdiction.
- A copy of the C of A (for Ontario facilities) or the applicable regulatory permit (for host jurisdictions).
- The name and contact information of the environmental regulatory agency in the jurisdiction (if the facility is located outside Ontario).
- A description of the recycling process, including a description and the quantities of recovered usable product or regenerated product.

#### **4.1.6 Part 5 – Certification (User Agreement)**

Upon completion of registration, the generator must read and agree to the following “User Agreement:”

“I certify that I am the contact person named on this registration form, that I have undertaken reasonable inquiry to satisfy myself as to the contents of this registration form, and that all of the information contained on this form is accurate and complete to the best of my knowledge.

I acknowledge that it is an offence under subsection 184 (2) of the EPA to give false or misleading information to the Ministry of the Environment. I confirm that I have been designated by my organization as the HWIN Administrator, and as HWIN Administrator I certify that I will keep HWIN registration information current.

I acknowledge that the Ministry of the Environment will hold the users, including HWIN Administrators, of the Hazardous Waste Information system, responsible for certifications and electronic signatures they make or cause to be made while using this system.

Recognizing the importance of certifications and signatures, I certify that as HWIN Administrator I will implement the necessary management of user names and passwords to ensure the integrity of these certifications and signatures for use in the system by my organization.”

#### **4.2 Annual Generator Registration (Registration Renewal)**

Your generator registration remains valid from the day that the registration is posted on the Ministry’s HWIN website until February 15 of the following year. Once a facility has registered for the first time, annual generator registration is required each year for every subject waste generated at the facility. The annual generator registration process must be completed between January 1 and February 15.

Annual generator registration requires generators to review their generator registration document (the site profile) to ensure that the information in it is still accurate, and to update the site profile if HWIN requests a change. In addition, payment of the annual generator registration fee is required.

#### **4.3 Supplementary Generator Registration (Revisions)**

Even though a GRR must be completed and submitted every calendar year, should there be a change in the information in the GRR, a supplementary GRR needs to be submitted. Examples of a change include:

- A change in company name, mailing address or telephone number
- A change in the official responsible or main HWIN contact for the generator
- The need to register additional waste streams
- A change in waste characterization or waste class
- A change in treatment requirements for LDR wastes
- Site closures.

Please note that if you are relocating to a new site, you must register that site as if you were a new generator (i.e., complete the initial generator registration process for the new site) and close the old generator registration account for the old site.

As a waste generator, it is your responsibility to complete and submit a supplementary GRR if any changes occur. This report must be sent to the Ministry within 15 days of the date the change took place.

There is no additional base fee associated with the supplemental GRR provided that the facility has a valid generator registration document posted on the Ministry’s website. The manifest and tonnage components of the fee will apply for all manifests that are completed with newly added waste classes.

#### **4.4 Emergency Generator Registration**

In the event of a spill or environmental emergency, please contact the Ministry’s Spills Action Centre (SAC) at 1-800-268-6060. SAC is staffed on a 24-hour basis to receive and record provincewide reports



of spills and to co-ordinate appropriate responses. SAC also provides a special emergency generator number (EGN) that consists of an “ONS” number specific to the MOE district, and a unique incident report number. All spills and environmental emergencies must be reported to SAC before an EGN can be issued. The EGN must be obtained from SAC before any subject waste can be removed from the site. To obtain an EGN, manifests must be completed for each load of waste that is ready to be removed from the site. SAC will require information from the manifest to issue the number.

Emergency generator registration is only intended to facilitate the immediate cleanup and removal of waste from a spill or environmental emergency, to protect public safety, remediate the situation and return the site back to its normal intended use as soon as possible. Emergency generator registration is not available for non-emergency situations such as process aberrations, upsets, one-time waste removals or other unusual circumstances that do not require immediate removal of the waste. In such situations, the initial registration or annual registration process is available on a 24/7 basis through HWIN.

By enabling generators to obtain an EGN through emergency generator registration for a one-time shipment of subject waste, the Ministry recognizes that meeting the GRR requirements, including LDR requirements, may not be feasible in the immediate response to a spill or environmental emergency, particularly with respect to the characterization of the waste and treatment that may be required. However, once the immediate threat from the spill has been addressed, the owner of the waste is responsible for its characterization and for submitting a GRR, including LDR requirements, to the Ministry within 90 days, detailing the subject waste that has been removed from the site. You do not have to remit a generator registration fee for subject waste handled through emergency generator registration. See 5.1 of the manual for more information on these LDR requirements.

**In the situation of a spill or environmental emergency, contact the Spills Action Centre, Ministry of the Environment, any time at 1-800-268-6060 regarding emergency generator registration.**

#### **4.5 Responsibilities of the Generator after Registration**

After registering successfully with the Ministry, a generator registration document (site profile) for your facility will be posted on MOE’s website. The generator registration document contains your generator registration number and waste numbers, and you must use these numbers on manifests during all subsequent transactions involving subject wastes that are generated at your facility.

As a registered generator, you are responsible for ensuring that a generator registration document for your facility has been posted on the Ministry’s website, and that the information posted is correct. Please note that you cannot transfer subject waste until your generator registration document has been posted, along with information about the subject waste being transferred.

Each waste generator is responsible for selecting accurate waste numbers. The waste numbers posted on the generation registration document for your facility should not be considered as confirmation of the accuracy of the information that you submitted during registration. If, due to new information or re-assessment of information submitted, you feel that your waste is incorrectly classified, you will need to revise your GRR by submitting a supplementary registration.

### Post-Registration Review

After the Ministry has posted your generator registration document, your facility may be subject to a more detailed review of its waste management practices by the MOE's district office near your facility. MOE's district office may conduct a detailed post-registration review that could result in requests for additional information or site visits.

It is also important to note that, as a waste generator, you are responsible for the characterization of your wastes and the information submitted to the Ministry. MOE's review is only intended to assist you in this process. If your waste is found to be incorrectly characterized, or the information on the GRR is incorrect even after your generator registration document has been posted, you could be liable for prosecution.

### Information Made Available to the Public

The public has access to the following information submitted on the GRR and the manifests that are used to track your waste:

- Company name and address
- Waste numbers
- Volumes generated.

The information is available through the Public Information Data Set (PIDS), which is a database of the above information. Copies of the PIDS can be obtained from the Ministry by contacting the Environmental Monitoring and Reporting Branch's General Inquiry @ 416-235-6300.

## **4.6 MANIFESTING**

A manifest is a document used to track the movement of liquid industrial and hazardous wastes (subject wastes) as they move from a generator to an off-site receiving facility. Manifests are used to identify the type of waste being shipped, overall volumes and the movements of the waste from generator to receiver to ensure that these wastes are managed appropriately.

The manifest is a six-copy document with each copy being distributed either to the generator, carrier, receiver or Ministry. There are three parts to the manifest: Part A is prepared by the generator, Part B by the carrier and Part C by the receiver. Please see Appendix C for detailed instructions on how to complete each part of the manifest and how those parts should be distributed. A sample manifest is included in the Appendix to this manual.

When completing a manifest for waste shipments in Ontario, generators are responsible for meeting all provincial, federal and international regulatory requirements. Where the federal Export and Import of Hazardous Waste Regulations under CEPA apply, or where the Interprovincial Movement of Hazardous Waste Regulations under CEPA apply, generators must fill in the fields associated with these regulations. Please contact the appropriate federal government department for guidance and instructions regarding these federal requirements.

There are two ways to complete a manifest, either electronically (on-line) or on paper:

1. Please see Appendix C for instructions on how to complete a manifest on-line
2. Please see Appendix C for instructions on how to complete a manifest on paper.

The next section of the manual describes manifest procedures that have been developed in Ontario to handle special situations.

#### **4.6.1 Load Refusal**

If a receiver refuses a shipment of subject waste, the carrier should consult and obtain instructions from the generator before attempting to deliver the waste to a different receiver. If the carrier cannot conveniently make a different transfer, the carrier may return the waste to the generator, along with all four parts of the manifest.

When a receiver refuses to accept a shipment of waste, the receiver must fill out a Load Refusal Report (please see Appendix C for a sample Load Refusal Report) to explain the reason for the refusal and the destination of the refused load. A copy of this report must be returned to the Director within three working days of the load's refusal.

The Load Refusal Report is in colour-coded in four parts, to be distributed as follows:

White (top copy)	Environmental Monitoring and Reporting Branch, Area M Ontario Ministry of the Environment 135 St. Clair Ave West Toronto, Ontario M4V 1P5
Blue (second copy)	Retained by the receiver who refused the load
Green (third copy)	Provided to the generator who shipped the load
Pink (bottom copy)	Retained by the carrier who transported the load

Please note that if the waste is shipped to another receiver, the actual receiver of the waste should complete Part C of the manifest.

A secondary manifest may need to be used to refuse a load (i.e., partial load refusals). In such cases, both manifests will need to be referenced on the load refusal report, and a copy of the original manifest should be attached to the secondary manifest while the waste is in transit.

The "Load Refusal Report" can be obtained from the Environmental Monitoring and Reporting Branch or any Regional/District Office of the Ministry of the Environment.
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#### **4.6.2 The use of the manifest for exempt waste**

If another jurisdiction requires the manifesting of a shipment of a waste that is exempt from Ontario's manifesting requirements (such as the requirements under the federal Export and Import of Hazardous Waste Regulations under CEPA or the Interprovincial Movement of Hazardous Waste Regulations under CEPA), the Ministry suggests that the generator obtain the appropriate manifest forms from the regulatory agency that requires them.

If any other regulation requires that a copy of the manifest be sent to the Ministry, the generator must enter Exempt in the Registration No. (e.g., Generator Number) box and in the Prov. Code (e.g., Ontario Waste Class) box of the manifest. Further information is provided in Appendix C on the use of the manifest for exempt waste or exempt generators.

Generators are discouraged from using the Ontario manifest to ship non-subject waste. The use of a manifest obtained from MOE requires that copies be returned to the Ministry, and this may trigger the \$5 per manifest component of the generator registration fee.

#### **4.6.3 Corrections to Manifests**

If an error has been made on the paper manifest, the error must be corrected in writing by forwarding either:

- 1) A copy of the manifest with all changes initialled. If you still have the copy that is to be returned to the Ministry, make changes directly on that copy and return it to the Ministry. If you have already submitted the relevant copy to the Ministry, make changes on your copy, photocopy it, and forward the copy to the Ministry, or
- 2) A signed letter specifying the manifest number and the exact correction to the Ministry.

The error must be corrected by the signatory of the appropriate part of the manifest (i.e., the generator in Part A, the carrier in Part B, or the receiver in Part C).

Corrections to manifests should be sent to:

Environmental Monitoring and Reporting Branch, Area M  
Ontario Ministry of the Environment  
135 St. Clair Ave West  
Toronto, Ontario M4V 1P5

#### **Waste Class Corrections**

In cases where the receiver receives a waste that is incorrectly classified, the receiver must not change the waste class that was entered by the generator. Rather, the receiver should notify the generator, who must then send a “Correction to the Manifest” to the Ministry, advising it of the correction or the carrier or receiver makes a correction request to the Ministry that is accompanied with the generator’s initials. The receiver may notify the Ministry that there is a discrepancy on the manifest (i.e., copy the Ministry on their communication to the generator), although no changes to manifest data outside of Part C will be initiated.

#### **4.6.4 Load Acceptance – Refusal**

In Box 34 of the Manifest (Shipment Accepted-Refused), a new entry is required to indicate whether the shipment was accepted or refused.

## **5 LAND DISPOSAL RESTRICTIONS (LDR)**

### **5.1 Introduction**

Ontario's LDR program was put in place to strengthen the regulatory framework for hazardous waste management, and to enhance the harmonization of the province's hazardous waste rules with those of the U.S., our largest hazardous waste trading partner.

The LDR program requirements set out in Regulation 347 prohibit the disposal of untreated hazardous waste in or on the land, unless the waste meets specific treatment requirements to reduce the mobility and/or toxicity of its hazardous components.

More detailed information on the LDR program is provided in the handbook, which is available on the Hazardous Waste Rules and Regulations page of the Ministry's website (see <http://www.ene.gov.on.ca/envision/land/hazardousWaste.htm>). This web page also includes a series of Fact Sheets that focus on specific aspects of the LDR program.

### **5.2 Overview of the LDR Program**

The LDR program affects hazardous waste generators, carriers and receivers. The program requires the treatment of hazardous wastes that will be land disposed in Ontario to:

- 1) substantially diminish the waste's toxicity by destroying or removing its harmful constituents, or
- 2) reduce the mobility of the waste's contaminants.

The LDR program includes the following are key elements:

- Each type of hazardous waste must meet a specific land disposal treatment requirement before being land disposed. The treatment requirements can include meeting a specific concentration limit or using a specific treatment technology. For a hazardous waste whose LDR requirement is a concentration limit, any suitable technology can be used for its treatment.
- The land disposal treatment requirements are being phased-in over a period of just over two years. The first treatment requirements took effect on August 31, 2007, and the rest of the requirements taking effect on December 31, 2009.
- The LDR program includes alternate treatment standards for waste soils or soil mixtures and waste debris or debris mixtures.
- The LDR program prohibits the mixing, blending or bulking of hazardous wastes with other wastes or materials, to prevent meeting the land disposal treatment requirements through dilution. However, Ontario's rules allow wastes to be mixed, blended or bulked when this is done to meet a treatment standard, or under the terms permitted by a C of A.
- The LDR program includes on-site storage requirements for waste generation facilities. These requirements provide some flexibility for generators, enabling them to accumulate sufficient

volumes of waste before disposal, while at the same time ensuring that temporary storage of wastes is carried out appropriately.

- Under the LDR program, hazardous waste generators are required to evaluate their waste streams and how they are managed, and to determine through the generator registration process whether additional information is required for LDR purposes. Generators that are required to identify the regulated constituents in their hazardous wastes can do so either by using analytical testing or their detailed knowledge of the waste they produce.
- The LDR program includes formal notification and reporting requirements for generators and processors of hazardous wastes. Processors that treat these wastes to meet a treatment requirement are also required to complete a waste analysis plan.
- Specific variances to a land disposal treatment requirement may be obtained through a Director's letter of equivalent treatment, through Certificates of Approval issued on a case-by-case basis, or through future amendments to the regulation, if warranted.

### 5.3 Applicability of the Land Disposal Treatment Requirements

The LDR program specifies the land disposal treatment requirements for all listed wastes and characteristic wastes that will be land disposed in Ontario. The treatment requirements apply to both the generated waste itself and to any residuals from the processing of the waste, if the residuals are also listed wastes or characteristic wastes.

These wastes are considered to be land disposed if they are deposited or disposed upon, into, in or through land. The term land disposal is defined in subsection 1 (1) of Regulation 347, and includes activities such as the disposal of wastes at a dump, a landfill or landfarm, as well as the discharge of wastes into a geological formation (i.e., deep well disposal). Ontario's land disposal treatment requirements are over and above the province's approvals requirements for waste disposal facilities. However, the temporary placement of remediation waste on land at a contaminated site as part of a site remediation plan is not considered to be land disposal.

The following wastes are **not** subject to Ontario's land disposal treatment requirements:

- Non-hazardous wastes
- Liquid industrial wastes
- Small quantity exempt (SQE) wastes
- Part V exempt wastes (e.g., agricultural wastes, recyclable wastes).

The following hazardous wastes are subject to Ontario's land disposal treatment requirements, and cannot be land disposed unless they have been treated to meet specific LDR treatment requirements:

#### Listed wastes

- Acute hazardous waste chemical (A)
- Hazardous industrial waste (H)
- Hazardous waste chemical (B)
- Severely toxic waste (S)

### Characteristic wastes

- Corrosive waste (C)
- Ignitable waste (I)
- Leachate toxic waste (T)
- Reactive waste (R)

The LDR program does not include land disposal treatment requirements for the following hazardous wastes:

- PCB waste as defined in Regulation 362 (i.e., >50 ppm PCB), which is prohibited from land disposal (Section 74 of Regulation 347).
- Pathological waste as defined in Regulation 347. Pathological waste is included in the biomedical waste definition in Guideline C-4.
- Radioactive waste — radioactive waste, except radioisotope wastes (i.e., produced as part of the nuclear fuel cycle) disposed of at a landfill site in accordance with the written instructions of the Canadian Nuclear Safety Commission, formerly the Atomic Energy Control Board, is hazardous waste. By contrast, the Ministry regulates radioactive waste that contains naturally occurring radioactive material (NORM) on a case-by-case basis.

If a waste contains PCBs at a concentration of less than or equal to 50 ppm, and is therefore not defined as a PCB waste, the waste could still be tested and be found to be leachate toxic for PCBs, which is a contaminant listed in Schedule 4 (Leachate Quality Criteria) of Regulation 347. If this is the case, the waste would have to meet the land disposal treatment requirements for E018 in Schedule 5 of Regulation 347, including the standards in Schedule 6 of Regulation 347, before it can be land disposed.

As well, if a waste is a biomedical waste, which includes pathological waste, Guidelines C-4 and C-17 provide additional direction on treatment, storage and handling. Guideline C-17 Non-Incineration Technologies for Treatment of Biomedical Waste (Procedures for Microbiological Testing) is available at <http://www.ene.gov.on.ca/envision/gp/4321e.htm>.

Hazardous wastes are not required to meet the LDR requirements for treatment before they are:

- Treated and discharged to surface water
- Discharged to a sewer or to another facility approved under the OWRA
- Sent to a recycling facility on the HWIN List of Recycling Facilities for recovery of materials from the waste, or
- Disposed of at an approved incineration facility or waste-derived fuel site.

A number of other LDR requirements (e.g., registration, notification) may apply, depending on how the hazardous wastes are managed before they are received at the above facilities. For information on the notification requirements in these situations, please see 5.8 of this manual.

Residuals from the management methods listed above may also be subject to the LDR program's registration, notification and treatment requirements at the new point of generation. For example, if the original waste was a listed waste, the resulting treatment residuals remain a listed waste. If the original waste was not a listed waste, the treatment residuals must be characterized to determine what type of hazardous waste it is. In such cases, if the treatment residuals are to be land disposed, the LDR program's treatment requirements would apply, depending on the characteristics of the residuals.

## **5.4 Land Disposal Treatment Requirements**

The land disposal treatment requirements are found in Schedule 1, Part A and Part B of Schedule 2, Schedule 3 and Schedule 5 of Regulation 347. For each hazardous waste, the schedules provide a hazardous waste number, a description of the waste or process, the regulated constituent(s) and a specific treatment requirement for both aqueous and non-aqueous forms of the hazardous waste. Waste generators need this information for each waste stream that is generated at their facility, and may also need to provide the information in the LDR notification form (Part 2B) of the GRR.

### **5.4.1 Identifying the Treatment Requirements**

Generators can identify the type of hazardous waste they produce either by using chemical analysis, by using their own detailed knowledge of the waste, or a combination of the two. Identifying the land disposal treatment requirement that applies to your waste is based on the hazardous waste number for each type of waste. Additional analysis and/or knowledge may be needed to identify the regulated constituents, including additional regulated constituents listed in Schedule 6 of Regulation 347 for characteristic wastes. The waste characterization process is explained in 3.5 of this manual, and a discussion of the analysis requirements is provided in 3.5.1 of this manual.

If there are any changes in the raw materials or in the process that generates the waste, and these changes could affect the composition of the waste or its physical or chemical properties, generators are required to review or repeat the waste characterization and identify the appropriate land disposal treatment requirements.

Hazardous waste generators are responsible for identifying all applicable hazardous waste numbers for each type of waste stream. In some cases, hazardous waste numbers may have sub-categories that involve different land disposal treatment requirements. If this is the case, generators are required to identify the correct sub-category for the hazardous waste number in the LDR notification form (Part 2B of the GRR).

There are two types of land disposal treatment requirements; numerical standards (which involve concentration limits) and treatment methods and standards (which involve treatment codes).

If numerical standards are specified for a waste, the concentration of each regulated constituent in the waste must be below the land disposal treatment requirement before the waste may be land disposed. By contrast, if treatment codes are required to treat a waste, the waste must be treated using the treatment methods set out in Schedule 7 of Regulation 347 for that treatment code before the waste may be land disposed.

In some cases, the land disposal treatment requirement specifies one or more treatment codes, while in other cases the treatment requirement specifies a choice of treatment codes. In either case the waste needs to be treated using the applicable treatment method and standard described in Schedule 7. Each treatment code has a corresponding treatment method and standard.



#### **5.4.1.1 Treatment Requirements for Listed Wastes**

The land disposal treatment requirements for listed wastes are included in Schedule 1, Part A and Part B of Schedule 2 and Schedule 3 of Regulation 347. The schedules identify the hazardous waste, its hazardous waste number, the regulated constituent(s) in the waste and the corresponding land disposal treatment requirement for each. Please note that all of the treatment requirements must be met for each regulated constituent in the waste stream.

The derived-from rule, which is explained in 3.1.4.1 of this manual, applies to listed wastes. Accordingly, listed wastes remain listed wastes after they have been treated to meet the land disposal treatment requirements. The treated wastes must therefore be disposed of at a facility that is approved to accept hazardous wastes. Facilities that receive these wastes for treatment and disposal must ensure that the wastes meet the applicable land disposal treatment requirements before they are land disposed.

There may be certain cases where a listed waste that has been treated to meet the land disposal treatment requirements may be disposed of in a non-hazardous waste disposal facility. For example, the treated listed waste has been delisted through a C of A that states that in the opinion of the Section 39 Director (i.e., for approvals purposes), the waste that is produced in accordance with the C of A does not have characteristics similar to the characteristics of the listed waste from which it was derived (i.e., the treated listed waste is no longer considered to be a listed waste as the Section 39 Director has determined that the derived-from rule does not apply) and provided that the treated waste is also not a characteristic waste. Please see 3.1.4.2 of this manual for more information on delisting a listed waste.

#### **5.4.1.2 Treatment Requirements for Characteristic Wastes**

The land disposal treatment requirements for characteristic wastes are included in Schedule 5 of Regulation 347. This schedule identifies the hazardous waste, its hazardous waste number, the regulated constituent(s) in the waste and the corresponding treatment requirements for each. All the treatment requirements must be met for each regulated constituent in the waste. Moreover, if the waste stream is characterized by more than one hazardous waste number, it must meet the land disposal treatment requirement for each number before it can be land disposed.

Most of the land disposal treatment requirements in Schedule 5 also include a requirement to meet the standards in Schedule 6 of Regulation 347. As a result, the generator must identify the constituent(s) that caused the waste to be characteristic, as well as any other regulated constituent in Schedule 6 that may be present in the waste at a concentration at or above the Schedule 6 standard at the point of generation. This information must be reported in the LDR notification form (Part 2B) of the GRR.

Schedule 6 lists additional regulated constituents for characteristic wastes and their associated treatment requirements. The treatment requirements are typically referred to as Universal Treatment Standards (UTS) and the regulated constituents in Schedule 6 are often referred to as Underlying Hazardous Constituents (UHC).

If a characteristic waste is de-characterized (please see 3.1.7 of the manual), but still has regulated constituents that do not meet the standards in Schedule 6, it cannot be land disposed. In such cases, the waste remains a subject waste and the generator needs to register the waste and complete the questionnaire (Declaration of Waste Streams Subject to Land Disposal Restrictions) in Part 2A of the

GRR. The questionnaire will indicate if the LDR Notifications Form (Part 2B) needs to be filled out for this waste stream.

Once a characteristic waste has been treated and meets the treatment requirement in Schedule 5 for the regulated constituent that made it hazardous (and if applicable, treated to meet the treatment requirement for any regulated constituent in Schedule 6), it can be land disposed at a facility that is approved to accept non-hazardous waste or a facility that is approved to accept hazardous waste. Facilities that receive these wastes for treatment and disposal must ensure that the wastes meet the applicable land disposal treatment requirements before land disposal.

*1. Ignitable Waste*

The treatment requirements for ignitable wastes are separated into two groups: ignitable wastes with greater than or equal to 10 per cent total organic carbon, and all other ignitable wastes. Ignitable wastes must be treated to remove the characteristic and meet Schedule 6 standards, or be treated by a specified technology.

*2. Corrosive Waste*

Corrosive wastes must be treated to remove the characteristic and meet Schedule 6 standards.

*3. Reactive Waste*

There are several sub-categories for reactive wastes. Depending on the type of waste, some must be treated to remove the characteristic and meet Schedule 6 standards, while others only require the removal of the characteristic. Reactive cyanides must meet concentration-based standards for cyanides.

*4. Leachate Toxic Waste*

In general, leachate toxic wastes must be treated to meet a specific numerical standard for the characteristic(s), and must meet Schedule 6 standards for all other regulated constituents that may be present. Certain leachate toxic wastes (i.e., some cadmium, mercury, and lead-based wastes) have different land disposal treatment sub-categories based on the type of waste and the concentration of its regulated constituent.

Some leachate toxic wastes have a treatment requirement in Schedule 5 that reads “Meet Schedule 6 standards and best efforts to achieve” the specified concentration limit for the contaminant listed in Schedule 4 of Regulation 347 (i.e., removal of the characteristic). For these wastes, any regulated constituents listed in Schedule 6 that are present in the waste must meet the Schedule 6 standard. As well, where possible, best efforts must be used to treat the waste to the specified concentration limit so that it is no longer a characteristic waste. If the waste remains leachate toxic after treatment for the contaminant, it must be land disposed in a facility that is approved to accept hazardous wastes, provided that all the other regulated constituents in the waste meet Schedule 6 standards.

#### **5.4.1.3 Wastes that are both Listed and Characteristic**

Hazardous wastes that are to be land disposed must meet the treatment requirements for all applicable hazardous waste numbers for wastes that are both listed and characteristic.

For example, if a listed waste exhibits a characteristic because of a contaminant listed in Schedule 4 of Regulation 347 that is one of the regulated constituents identified for that listed waste, the waste only has to be treated to meet the treatment requirements for the listed waste. However, if the listed waste exhibits a characteristic because of a contaminant listed in Schedule 4 that is not one of the regulated constituents

identified for that listed waste, the waste has to be treated to meet **both** the treatment requirements for the hazardous waste number assigned to the listing **and** for the hazardous waste number(s) assigned to the characteristic.

The treated waste can only be disposed of at an approved hazardous waste facility unless a C of A has been issued that states that the treated waste is no longer a hazardous waste.

All of the hazardous waste numbers must be identified in the LDR notification form, unless the land disposal treatment requirement for the listed waste contains the regulated constituent that caused the waste to be defined as a characteristic waste.

**EXAMPLE:** The regulated constituents for the listed waste with the hazardous waste number K002 are chromium and lead. If a K002 waste exhibits a characteristic for a contaminant other than chromium and lead (i.e., cyanide), it is also a characteristic waste and the hazardous waste number (i.e., E006 for cyanide) must be identified. However, the hazardous waste numbers for chromium (D007) and lead (D008) do not apply, since these regulated constituents are included in the K002 listing.

## **5.5 Exemptions from Land Disposal Treatment Requirements**

### **5.5.1 Wastes from a Small Quantity Generator (SQG)**

Section 80 of Regulation 347 includes provisions that exempt wastes in a sealed container from the requirement to meet Ontario's land disposal treatment requirements before they are land disposed. These provisions do not exempt these wastes from all LDR requirements. Rather, they establish alternate management requirements (e.g., container and certification requirements) that must be met in order for the wastes to be exempt from the treatment requirements.

This exemption is for wastes produced by generators that produce a total of less than 100 kg of hazardous industrial waste (H), hazardous waste chemical (B) and characteristic waste (I, C, R, or T) in any month. Such generators are referred to as small quantity generators (SQGs). Please note, however, that the Section 80 exemption does not apply to severely toxic wastes or acute hazardous waste chemicals. Generators of these wastes must always treat these wastes to meet the land disposal treatment requirements.

It is important to note that the wastes generated by small quantity generators (SQGs) are not the same wastes covered by the small quantity exemptions (SQE), which are exemptions under the definitions of liquid industrial waste and hazardous waste. The provisions in Section 80 for a SQG do not exempt these wastes from the definition of hazardous waste. As a result, SQGs may still need to meet all of the other hazardous waste requirements for these wastes, including registration, manifesting and transportation by a Ministry-approved carrier to manage the specified class of waste.

Under the provisions of Section 80, SQGs can have their waste(s) land disposed without meeting the land disposal treatment requirements, provided that they:

- Generate the waste(s) at their waste generation facility and do not mix, blend or bulk them with other wastes or materials

- Place the waste(s) into a sealed container that weighs no more than 250 kg, including the weight of the container
- The container and its seal comply with the requirements of this manual, and
- Affix a signed certificate to the sealed container.

The signed certificate affixed to the sealed container must include the following information:

1. The name, address, telephone number and generator number of the generator. This information relates to the site where the waste(s) is generated.
2. The statements described in subsection 80 (3) of Regulation 347 that certify the security of the container and its contents, where the waste(s) was produced, and the weight of the container (please see the example provided in Appendix D of the manual).
3. A description of the contents of the container, including a description of the waste(s) inside and the appropriate waste number(s) and quantities of each waste. If more than one waste is included in the container, the description of the contents should be preceded by the designation “Lab-Packed Contents.”
4. A signature (and printed name) and the date on which the certificate was signed. The certificate must be signed by an individual at the generating site who is knowledgeable about the contents of the container, and thus in a position to confirm that the information included on the certificate is accurate.

A sample certificate is included in Appendix D of the manual.

The wastes in the sealed container will continue to be exempt from Ontario’s land disposal treatment requirements as long as the container is not opened and does not appear to be broken or leaking at any time before its land disposal. Please note, however, that although these wastes are not required to meet the land disposal treatment requirements, they are still considered to be hazardous wastes, and must be managed or disposed of at an approved hazardous waste receiving site.

A generator is free to select an effective/appropriate method of sealing the containers. Whichever method is chosen, it must be apparent that the seal has not been broken or tampered with upon receipt of the waste at a waste-receiving site. Examples of security seals that can be used for hazardous waste containers include serialized plastic cargo seals, pull seals, padlocks or security wire seals, as well as tamper-evident tape.

Further information about the disposal of hazardous waste in accordance with the SQG provisions can be found in the handbook, which can be accessed through the Ministry’s website at <http://www.ene.gov.on.ca/envision/land/hazardousWaste.htm>.

### **5.5.2 Wastes from Municipal Hazardous or Special Waste (MHSW) Depots**

Section 81 of Regulation 347 includes provisions that exempt specific wastes from meeting the land disposal treatment requirements if they are collected at an approved waste disposal site (e.g., a MHSW depot) that is operated either by or exclusively for a municipality for the collection of MHSW, also known as HHW, from the general public or householders.

If these sites collect this waste and also collect wastes from other generators (typically those in the industrial, commercial and institutional (IC&I) sector) in quantities that meet the small quantity exemptions in the various hazardous waste definitions in Regulation 347, they are not required to have these wastes treated to meet the LDR treatment requirements before the wastes are land disposed. MHSW depots that handle, bulk and temporarily store such wastes can send them for land disposal at an approved facility without meeting the LDR treatment and notification requirements, provided that the wastes are not processed or disposed of on-site.

Some MHSW depots may also be approved to accept larger volumes of wastes from IC&I generators, including hazardous wastes. Any hazardous waste collected at an approved MHSW depot that is not a MHSW or SQE waste is not included in the Section 81 provisions, and thus may be subject to the LDR requirements.

The owner/operator of a MHSW depot is obliged to demonstrate at all times that the provisions of Section 81 apply to the wastes received at the facility. For facilities that are approved to receive wastes only from domestic sources and SQE wastes from IC&I generators, the requirements of the facility's C of A ensure that the provisions of Section 81 are met. However, additional measures such as labels and/or security seals similar to those used for wastes that meet the SQG provisions of Section 80 may be helpful to demonstrate compliance with the LDR requirements (please see the handbook for an example of a label that could be used).

Facilities that are approved to accept hazardous wastes (e.g., wastes that are equal to or exceed the SQE) from IC&I generators must ensure compliance with the LDR requirements. If wastes are accepted from a SQG, the provisions in Section 80 must be met in order to land dispose these wastes without treating them to meet the LDR treatment requirements. Wastes from a generator that are accepted in amounts greater than those specified for SQGs must meet the land disposal treatment requirements before the wastes are land disposed. MHSW depots should also check with their waste management service providers to determine if any additional, company-specific requirements apply.

For more information on the Section 81 provisions and how they affect these sites, please refer to the handbook.

## **5.6 Hazardous wastes that are lab-packed**

A lab pack is a term used to identify a common container, usually a steel or fibre drum, which generally contains small quantities of waste chemicals that are individually packaged and then over-packed in the common container. Lab packs are used to transport these wastes to a waste management facility.

The Ministry recommends that generators separate lab packs into those that contain wastes that have to meet LDR treatment requirements and those that contain wastes that do not have to meet the LDR treatment requirements. If lab-packed wastes that do not have to meet land disposal treatment requirements are mixed with wastes that do have to meet the treatment requirements, the combined wastes must meet the land disposal treatment requirements. Please note that the LDR program does not include alternate treatment requirements for lab-packed hazardous wastes.

The contents of a lab pack are subject to specific LDR requirements, depending on the type of waste, the status of the generator and how the waste in the lab pack is to be disposed. Generators should also note that:

- SQE wastes are not hazardous by definition, and that lab packs containing only SQE wastes are thus exempt from land disposal treatment requirements.
- Lab-packed hazardous wastes generated by a SQG that meet the requirements in Section 80 of Regulation 347 do not have to meet land disposal treatment requirements before land disposal.
- Hazardous wastes that are not SQE wastes or wastes generated by a SQG and are to be land disposed can be lab packed, but the wastes must meet LDR registration, notification and land disposal treatment requirements.

Waste generators are responsible for determining whether LDR requirements apply to their wastes, and for notifying the receiver about the nature of the wastes and the land disposal treatment requirements that must be met. Information on registration, manifest and notification requirements for lab-packed wastes can be found in 3.7.5 of this manual. The handbook also includes information on the management of hazardous wastes that are shipped in lab packs and subject to LDR requirements.

Lab-packed hazardous wastes may only be received at a facility that is approved to accept and transfer each type of hazardous waste in the lab pack. If the lab packs are unpacked and processed or bulked with similar wastes, the facility must be approved to process each type of hazardous waste contained in the pack. If any of the wastes from a lab pack are to be land disposed, the land disposal treatment requirements apply to each waste, unless the wastes and the lab pack meet the requirements in Section 80 of Regulation 347. If a lab pack meeting the requirements of Section 80 is opened by a transfer or processing facility, the facility must ensure that each hazardous waste in the pack that is to be land disposed meets the applicable land disposal treatment requirements.

In addition, if a lab pack is to be unpacked and sorted with the possibility that any of the individual hazardous wastes in the lab pack will be land disposed, the initial generator must ensure that the LDR notification requirements are met for all of the wastes in the lab pack. This includes reporting the hazardous waste number for each waste in the LDR notification form (Part 2B) of the GRR.

Generators of hazardous wastes that must meet LDR requirements but do not meet the SQG provisions in Section 80, or generators of acute hazardous waste chemicals or severely toxic wastes, may still lab-pack their wastes. However, these generators must ensure that the LDR notification requirements are met for all the wastes in the lab pack, and must also include the hazardous waste number for each waste when they complete the LDR notification form (Part 2B) of the GRR.

LDR requirements do not apply to hazardous wastes that are lab-packed and are not to be land disposed (e.g., lab packs that are going directly to an incineration facility). If the generator sends the lab-packed wastes to a processing facility before they are to be sent to an incineration facility, the land disposal treatment and notification requirements do not apply — provided that the wastes are only being bulked with like wastes, and that no other processing of the waste occurs. In such cases, however, the generator must still complete the GRR, including the questionnaire in Part 2A.

## **5.7 Alternate Treatment Standards**

Ontario's LDR program includes alternate treatment standards for a soil or a soil mixture and a debris or a debris mixture that is a listed waste or characteristic waste. These wastes may be treated in accordance with the waste-specific land disposal treatment requirements, or in accordance with the alternate treatment standards described in Section 82 (soil or a soil mixture) and Section 83 (debris or a debris mixture) of Regulation 347.

### 5.7.1 Soils

As described in 3.1.4.1 of this manual, the mixture and derived-from rules are not strictly applied to waste soils (remediation wastes) from brownfield sites. Such remediation wastes are only deemed to be hazardous wastes when they are determined to be a characteristic waste.

The alternate treatment standards for waste that is a soil or a soil mixture are identified in Section 82 of Regulation 347. The land disposal treatment requirements for these wastes are as follows:

- The characteristics that make the wastes ignitable, corrosive and reactive must be removed.
- For leachate toxic wastes, all regulated constituents listed in Schedule 6 of Regulation 347 that are present in the waste must be treated so that:
  - The concentration after treatment is not more than 10 per cent of the concentration before treatment (i.e., 90 per cent reduction in the concentration of the regulated constituent), or
  - The concentration after treatment is less than 10 times the standard shown in Column 4 of Schedule 6. Please see the example in the box below.

Soils may be land disposed without treatment if they are not ignitable, reactive or corrosive, and if none of the constituents listed in Schedule 6 is present at a concentration of more than 10 times the value listed in Column 4 of Schedule 6.

After a soil has been treated so that it meets the alternate treatment standard, it may still be a characteristic waste because it is leachate toxic. In such cases, the waste must be disposed of at a facility that is approved to accept hazardous wastes, and will then be deemed to have met the land disposal treatment requirements. If the waste is no longer a hazardous waste after treatment, it can be disposed of in a non-hazardous waste receiving facility.

If residuals from the treatment of soils that were a listed waste or characteristic waste are hazardous waste, they must be treated to meet the land disposal treatment requirement for the new waste stream. This provision applies unless the residuals are a soil or a soil mixture, in which case the alternate treatment standards can be used to meet the treatment requirement before land disposal.

**EXAMPLE** (all concentrations are mg/L TCLP) - soil that is leachate toxic for cadmium (e.g., cadmium level exceeds Schedule 4 value of 0.5 mg/L):

- No treatment is required if the cadmium concentration is below 1.1 mg/L (10 times the value in column 4 of Schedule 6)
- Treatment is required if the initial concentration of cadmium in the soil is more than 1.1 mg/L. The treatment needs to achieve:
  - A cadmium concentration of 1.1 mg/L or less OR
  - A cadmium concentration above 1.1 mg/L, provided that the concentration after treatment is not more than 10 per cent of the concentration before treatment (i.e., from 20 mg/L to 2 mg/L).

The soil may be disposed of at a non-hazardous waste facility only if the cadmium concentration in the treated soil is below 0.5 mg/L (leachate quality criteria from Schedule 4 of Regulation 347).

### 5.7.2 Debris

Section 83 of Regulation 347 identifies the alternate treatment standards for waste that is a debris or a debris mixture. These standards are technology-based. Schedule 8 of Regulation 347 (Alternative Treatment for Hazardous Debris) lists the technologies that may be used, the standards for each debris type, and any restrictions on the use of the technology based on the contaminant being treated.

The alternate treatment standards for a debris or a debris mixture cannot be used if the debris mixture includes:

- Lead acid batteries, cadmium batteries, or radioactive lead solids
- Process residuals such as smelter slag, residues from the treatment of wastewater or other waste, sludge and residues from the treatment of sludge, and residues from air pollution control equipment, or
- Intact containers of hazardous waste that are not ruptured and that retain at least 75 per cent of the volume of the original container.

If the above waste materials are segregated from a debris mixture, the remaining waste that is a debris or a debris mixture can be treated using the alternate treatment standards. The segregated waste materials above must be treated in accordance with the waste-specific land disposal treatment requirements.

Schedule 8 lists the methods that may be used to treat a waste that is a debris or a debris mixture. The treatment method(s) must address all of the regulated constituents in the debris, as well as each type of debris in a debris mixture. One or more treatment technologies may be required — and if an immobilization technology is used, it must be the last technology used.

Only debris or a debris mixture that is deemed to be a listed waste or characteristic waste is subject to the land disposal treatment requirements. The debris or debris mixture must be treated in accordance with one or more of the treatment methods in Schedule 8, and must no longer display a characteristic after treatment. After treatment, material that is still debris must be separated from material that is not debris. Residual that is not debris is subject to the waste-specific land disposal treatment requirements for a listed waste or characteristic waste. Regulation 347 contains specific provisions for residual waste that is reactive because of the presence of cyanide, and for layers of waste removed by spalling.

The alternate treatment standards in Schedule 8 are separated into three groups of technologies: extraction, destruction and immobilization. Debris or a debris mixture contaminated with a listed waste and treated using an immobilization technology must be disposed of in an approved hazardous waste receiving facility. By contrast, listed waste or characteristic waste that is a debris or a debris mixture that has been treated using extraction or destruction technologies and that is no longer a characteristic waste may be disposed of in a non-hazardous waste receiving facility.

## 5.8 Notification, Record-keeping and Waste Analysis Plan Requirements

The LDR program includes requirements that affect the generator registration process. The program also introduces notification and record-keeping requirements, as well as the requirement to develop a waste analysis plan when treating hazardous wastes to meet the land disposal treatment requirements. Together, these requirements are designed to ensure that the appropriate information about the nature of the wastes



and the type and status of treatment is known — and that this information is recorded and transferred to the receivers of these wastes, and available to the Ministry to facilitate its abatement activities.

To standardize and facilitate the notification process, the Ministry has included an LDR notification form (Part 2B) as part of the GRR. This form is designed to include all the information that needs to be transferred to the receiver to meet Regulation 347's LDR notification requirements. Generators and operators of processing facilities are required to comply with these requirements, based on the LDR program's phase-in schedule. The details of the phase-in dates for each type of hazardous waste are provided in 5.10 of this manual.

As noted earlier, the HWIN system allows generators to print a copy of the LDR notification form so that the form can be transferred to a receiver. While generators may decide to use a different form for transfers to a receiver, the form they use must meet the LDR notification requirements and include all the information required in the LDR notification form.

The following subsections of the manual outline the requirements of Sections 84 and 85 of Regulation 347 for generators and processors of hazardous wastes who are affected by the LDR requirements. Additional information on completing Part 2B of the GRR can be found in 4.1.3 of the manual, while further information on the notification requirements can be found in the handbook.

### **5.8.1 Generators**

#### **5.8.1.1 Notification requirements (Section 84)**

Generators of hazardous wastes that may be subject to the LDR program's notification requirements can include the original waste generator or any subsequent receiver (e.g., transfer station or processing facility) involved in the production, collection, handling or storage of these wastes.

Once a generator has determined all of the characteristics for a waste and that the waste is subject to generator registration requirements, the generator must determine whether the land disposal treatment requirements apply, and whether additional information is required for LDR purposes. During the generator registration process, the generator must assess all listed wastes and characteristic wastes to determine whether there is a requirement to provide the receiver of the waste with the additional information.

Part 2A of the GRR paper form and the on-line form in HWIN include a questionnaire that is designed to determine if the waste being registered is subject to the LDR requirements. By completing the questionnaire for each hazardous waste stream, generators will determine if they need to complete the LDR notification form (Part 2B) of the GRR. Section 4.1.3 of this manual guides the generator through completion of Part 2B, and examples of Part 2B for different types of wastes and treatment situations are provided in Appendix B.

Notification is a one-time requirement that provides the receiver with information about the waste, the relevant treatment requirement and whether the waste has been partially or fully treated. This must be done either before or on the first transfer of the waste. If, after the first notification, the description of the waste or the physical or chemical properties of the waste change, the generator must notify the receiver of the change by providing the updated information from the most recent Part 2B of the GRR to the receiver *before or at the first time* the waste is received at the receiving facility.

For the purposes of notification, a receiver can include a transfer station, a facility where the waste is being treated or a disposal facility. In the case of transfer stations, the receiver must register and forward the information about the waste to the next receiver. If like wastes are bulked at a transfer station, the waste that is shipped off-site must be registered, and the information from the bulked waste streams must be included in the notification form sent to the next receiver (please see 3.8 of the manual for more details on bulking at transfer stations). Moreover, if any processing of the waste occurs at a facility, the processor must identify this in the notification form provided to the next receiver (please see also 5.8.2.2 of the manual). Finally, if the Ministry has provided a variance from a treatment requirement for a specific waste, the generator must include information about the variance (e.g., approval number, effective dates).

If a waste generation facility treats wastes on-site to meet land disposal treatment requirements, the generator must also comply with the requirements specified in Section 85 of Regulation 347.

The waste generator may supply the information in the notification form to the receiver in any of the following ways:

- To the carrier of the waste with instructions to deliver the information to the receiver
- In accordance with Section 182 of the EPA (i.e., personally, by mail, in accordance with regulations respecting service)
- By fax or other form of delivery, or
- By giving the receiver a specific internet address where the information can be found.

A generator of a listed waste or characteristic waste is not required to meet the LDR notification requirements, provided that all of the waste is managed by one of the methods described below:

- Treated and discharged to surface water, discharged to sewer or to another facility approved under the OWRA
- Sent to a recycling facility that appears on the Ministry's HWIN List of Recycling Facilities on the HWIN website (<https://www.hwin.ca/hwin/oda/recyclers.jsp>) for recovery of material from the waste
- Disposed of at an approved incineration facility
- Disposed of at a waste-derived fuel site.

Listed waste or characteristic waste that does not have to meet the LDR notification requirements must be shipped directly to the facilities listed above or shipped indirectly to them through a transfer/processing facility, as long as the activities conducted at the facility are limited to bulking of like wastes that are also destined and managed at the same facility.

If any processing occurs at an off-site facility before the waste arrives at the intended receiving facility (e.g., recycling facility on the HWIN List of Recycling Facilities, etc.), the original generator needs to complete the notification form and send it to the initial receiver. Processing for this purpose includes mixing, blending or other intermingling of the waste with any other waste or material, but does not include bulking of like wastes or mixing of wastes in accordance with a C of A. Please see 6.1.1 of this manual for more information on this requirement. Please also note that the residuals from the management methods identified above may be subject to the registration and LDR requirements at the new point of generation.

Hazardous wastes that are shipped out-of-province are subject to the LDR notification requirements, unless they are sent directly to a facility on the HWIN List of Recycling Facilities or to another off-site facility where only bulking of the hazardous waste occurs before being received at a facility on the HWIN List of Recycling Facilities.

#### **5.8.1.2 Record-keeping Requirements**

Once the information needed for notification has been provided to the receiver, the generator is responsible for maintaining the following information:

- A record of all the information provided to the receiver
- The name of the receiver
- The date that the information was provided to the receiver.

This information must be stored at the waste generation facility for a period of at least two years.

#### *Notification Requirements for Sealed Containers from a Small Quantity Generator (SQG)*

A small quantity generator that meets the requirements of Section 80 is not required to complete the notification form. However, these generators are required to provide information to the receiver by means of a certificate on the container. Details about the SQG provisions and the information that must be included in the certificate are outlined in 5.5.1 of the manual, and a sample certificate is provided in Appendix D.

### **5.8.2 Processors**

#### **5.8.2.1 Notification Requirements (Section 84)**

Any waste generation facility or receiving facility that processes hazardous waste to address a treatment requirement and later ships the waste off-site must comply with the notification requirements in Section 84, which oblige them to notify the next receiver about the nature of the waste and its treatment status.

The notification and record-keeping requirements for facilities that treat these wastes and then ship them off-site as either fully or partially treated wastes are identical to the requirements outlined above for generators. The requirement to complete the LDR notification form (Part 2B) and provide it to the next receiver is a one-time requirement that must be completed on or before the first transfer of the waste, after the land disposal treatment requirements for the waste take effect.

Generators must provide notification for LDR purposes for each type of treated waste to all waste disposal facilities that receive the wastes. The details of the type of notification vary, depending on the type of waste and extent of treatment as follows:

##### Listed wastes

- Listed wastes must be disposed of at an approved hazardous waste facility. The receiving facility that will further treat or dispose of the waste must receive a notification that contains all of the information in the LDR notification form for the treated waste.

#### Partially treated and de-characterized wastes

- Partially treated and de-characterized wastes are no longer hazardous but are still a subject waste (i.e., they cannot be land disposed because some of the regulated constituents do not meet Ontario's treatment requirements). The receiving facility that further treats the waste must therefore receive a notification that contains the information in the LDR notification form for the partially treated waste.

#### Fully treated characteristic waste

- Fully treated characteristic wastes can be disposed of in a hazardous or non-hazardous waste receiving facility. The receiving facility that will dispose of the waste must receive a notification containing a statement that the waste was characteristic waste, but that it has been treated to meet all the LDR treatment requirements and may thus be land disposed.

If the residual from the processing of these hazardous wastes is a listed waste or characteristic waste, and the residual needs to be processed to meet a treatment requirement before land disposal, the processor must comply with the registration, notification and record-keeping requirements for generators for the residuals.

The receiver that processes these wastes and ships them off-site to a recycling facility on the HWIN List of Recycling Facilities, an OWRA-approved facility or a waste-derived fuel or incineration facility would follow the same requirements described above for a generator who sends waste to these facilities. Any residues from the processing of the waste to make it amenable to management at one of these facilities (e.g., recycling facility on the HWIN List of Recycling Facilities, etc.) may be subject to registration, notification and record-keeping requirements.

When residues that are subject to LDR requirements are being registered, the GRR must contain the information provided by the original waste generators in the LDR notification forms for all wastes that entered into the process that generated the residues.

### **5.8.2.2 Waste Analysis Plan Requirements (Section 85)**

Section 85 of Regulation 347 contains the requirements for a written plan (i.e., waste analysis plans). These requirements apply to all processors (e.g., processing on-site at a waste generation facility or processing off-site at a treatment facility) that treat hazardous wastes to meet land disposal treatment requirements. The requirement to develop and maintain a waste analysis plan takes effect at the same time as the treatment requirements for a hazardous waste take effect. The development of these plans will ensure that sufficient chemical analysis is conducted to demonstrate that the wastes have been appropriately treated to meet the treatment requirement for each of their regulated constituents.

The waste analysis plan should include the following:

- The requirements for regular and detailed chemical and physical testing of representative samples of the wastes that are treated
- The requirements to ensure that the testing will provide all information necessary to treat the waste in accordance with land disposal treatment requirements
- The frequency with which testing will be conducted
- The treatment method to be used to comply with the land disposal treatment requirements.

The requirement to prepare a waste analysis plan applies to generators that treat waste on-site at the waste generation facility and any off-site treatment facilities. This includes generators that treat characteristic waste on-site to meet the LDR treatment requirements so that the waste shipped off-site is no longer subject waste.

For more detailed information on the contents of the waste analysis plan, please refer to the handbook.

For wastes that are treated at a recycling facility on the HWIN List of Recycling Facilities, a facility approved under the OWRA, or waste-derived fuel or incineration facility, a waste analysis plan is not required when these wastes are processed or disposed. However, a waste analysis plan is required for the processing of any residuals these facilities generate that are subject to land disposal treatment requirements.

### **5.8.2.3 Record-keeping Requirements**

The notification and record-keeping requirements for processors that treat hazardous wastes to meet a land disposal treatment requirement are the same as the notification and record-keeping requirements outlined in the section above for generators.

A waste generation facility or receiving facility that processes hazardous waste to meet a land disposal treatment requirement is required to develop and maintain a written plan while the treatment is occurring, and for at least two years after the facility ceases to treat the waste. The individual responsible for following the plan must record every test result conducted in accordance with the plan, and retain this record for at least two years. The written plan and records must be kept at the site where the processing takes place, and must be made available to the Ministry on request.

## **5.9 Variances**

For each type of hazardous waste, Regulation 347 identifies a corresponding land disposal treatment requirement. However, the Ministry recognizes that there may be special circumstances where meeting a specific treatment requirement for a hazardous waste is not possible before land disposal. Depending on those circumstances, the Ministry may provide some flexibility by granting a variance in the application of a land disposal treatment requirement. Specific variances to a land disposal treatment requirement may be obtained through a Director's letter of equivalent treatment, a Certificate of Approval issued on a case-by-case basis, or through a future amendment to the regulation, if warranted.

During the development of the LDR program, MOE recognized that adequate treatment capacity might not be readily available for all types of hazardous wastes that need treatment before they are land disposed. As a result, the treatment requirements were phased in (e.g., August 31, 2007 and December 31, 2009) through Schedules 10 to 13 of Regulation 347. This phase-in period is referred to as a capacity variance. It was included to provide time for the regulated community to prepare for the new land disposal treatment requirements, and to provide the waste management industry time to respond to Ontario's increased demand for processing capacity. The details of the phase-in dates for each type of hazardous waste are described in 5.10 of this manual.

A waste that has been provided with a specific variance can be land disposed, provided that it is first treated in accordance with the specified variance. However, the waste continues to be subject to any other LDR requirements (e.g., registration, notification, waste analysis plan, etc.). If a variance to a land disposal treatment requirement is obtained, it must be documented on the LDR notification form (Part 2B) of the GRR. A brief description of the variances that may be available is provided below. For additional information on the application of these variances and how to request a variance to a treatment requirement, please refer to the handbook.

#### **5.9.1 Case-by-Case Extension to an Effective Date**

This type of variance may be considered in situations where a facility capable of treating or disposing of certain types of hazardous waste to meet the land disposal treatment requirements is not ready to treat these wastes. The variance may be considered when the treatment requirement is either a specific technology method or a numerical standard. In such cases, the variance would allow for alternative treatment requirements for a limited time after the phase-in date for a specific waste stream, either at a waste generation or processing facility.

This type of variance would typically be implemented on a case-by-case basis through a C of A for a waste generation, processing or disposal facility. If warranted, a case-by-case extension could be implemented through an amendment to Regulation 347.

#### **5.9.2 Variance from a Treatment Requirement**

This variance may be considered when the land disposal treatment requirement is either a specific technology method or a numerical standard. Typically, the variance would deal with a waste that is significantly different than the waste used to set the land disposal treatment requirement, and would address a specific waste stream at a specific waste generation facility.

In the event that the Ministry considered a variance from a land disposal treatment requirement for a specific waste stream at a waste generation facility, the variance could be implemented on a case-by-case basis through the facility's C of A, or for the C of A for a processing or disposal facility.

When warranted, the Ministry may also consider implementing a generic treatability variance by proposing an amendment to Regulation 347. In such cases, the proponent would need to demonstrate that an alternate technology could be used to accomplish the LDR requirement, or that the treatment requirement specified in the regulation is not attainable using the available technologies. A generic treatability variance could result in a new treatability group and a corresponding land disposal treatment requirement that applies to all wastes that meet the criteria of the new group. Generic treatability variances have already been included in Regulation 347 through the alternate treatment standards for a soil or a soil mixture and a debris or a debris mixture.

#### **5.9.3 Equivalent Treatment Method Variance**

This variance may be considered when the land disposal treatment requirement sets out a specific technology. The variance could allow for the use of another type of technology, if a case can be made

that the alternate technology provides an equivalent level of treatment to the technology specified in the regulation.

Regulation 347 contains a provision for this type of variance that allows the Director of the Waste Management Policy Branch, upon Ministry review, to approve an equivalent level of treatment to a specific land disposal treatment requirement. This variance could also be implemented through a Certificate of Approval.

### 5.10 Phase-In Schedule for LDR Requirements

The LDR program includes various requirements, phased in between March 31, 2006 and December 31, 2009. The key phase-in dates for these requirements are summarized in Table 5.1 below.

**Table 5.1 – Summary of phase-in dates for LDR program requirements**

<b>Requirements</b>	<b>Phase-In Date</b>
<b>Storage, Mixing and Processing:</b> Waste storage, mixing (including blending, bulking or intermingling) and processing requirements.	March 31, 2006
<b>Waste Registration:</b> Generator registration requirements.	January 1, 2007
<b>Waste Registration:</b> Completion of Part 2A (sections applicable to LDR requirements) and Part 2B of the GRR requirement.	August 31, 2007 (Part 2A – update annually, Part 2B – as required by questionnaire in Part 2A)
<b>Waste Treatment:</b> Land disposal treatment requirements for hazardous wastes in Schedules 10, 11, 12, and 13, excluding mixed hazardous waste. <sup>1</sup>	August 31, 2007
<b>Waste Treatment:</b> Alternate treatment standards for soils affected by a land disposal treatment requirement (please note that Schedule 6 applies ONLY for those regulated constituents listed in Schedule 13).	August 31, 2007
<b>Waste Treatment:</b> Alternate treatment for hazardous debris affected by a land disposal treatment requirement (ONLY to address the regulated constituents listed in Schedule 13).	August 31, 2007
<b>Waste Treatment:</b> Land disposal treatment requirements for hazardous wastes in Schedule 1, Part A and Part B of Schedule 2, Schedule 3 and Schedule 5, including mixed hazardous waste. Schedules 10, 11, 12 and 13 become redundant after this date.	December 31, 2009
<b>Waste Treatment:</b> Land disposal treatment requirements for all regulated constituents listed in Schedule 6 (Universal Treatment Standards).	December 31, 2009
<b>Receiver Notification:</b> Requirement to provide an LDR notification form.	Effective at time land disposal treatment requirement in effect for the waste
<b>Waste Analysis Plan:</b> Requirement for processor of hazardous wastes affected by a land disposal treatment requirement to prepare a plan.	Effective at time land disposal treatment requirements in effect for the waste

<sup>1</sup> The term “mixed hazardous waste” means a hazardous waste or mixture of hazardous wastes that has a waste characterization found in Schedules 10, 11, 12 and 13 (these are hazardous wastes that have treatment requirements that take effect on August 31, 2007), and a waste characterization that is not found in Schedules 10, 11, 12 and 13 (these are hazardous wastes that have land disposal treatment requirements that take effect on December 31, 2009). Simply put, a mixed hazardous waste is a hazardous waste or mixture of hazardous wastes with hazardous waste numbers whose phase-in dates are different for the LDR treatment requirements.

### **Storage, Mixing and Processing Requirements**

The requirements for on-site storage, mixing (including blending, bulking and intermingling) and processing of wastes may apply to waste generation facilities that are used mainly for activities other than waste management, as well as to sites that generate hazardous wastes that are subject to the land disposal treatment requirements. Whether or not these sections of the regulation apply depends on the type of wastes being generated (non-hazardous and hazardous) and the type of waste activities being carried out on-site. These requirements are further discussed in 6.1 of this manual. The Ministry has developed a fact sheet entitled, “Waste Storage, Mixing and Processing Requirements Effective March 31, 2006,” to provide more detailed information on these requirements and is available at <http://www.ene.gov.on.ca/en/land/hazardouswaste/hazardouswaste.php>.

### **Waste Registration**

The requirement for generators to revise their GRR to reflect changes about the information on wastes that require registration, and to include additional information related to the LDR requirements, are being staged, and the staging is based on the phase-in dates of the land disposal treatment requirements for each hazardous waste stream. Generators are required to submit the GRR in a form or format provided by the Ministry. Appendix I of this manual outlines the additional generator registration requirements related to the LDR requirements.

### **Waste Treatment**

Once the land disposal treatment requirements have come into effect for a specific hazardous waste, these wastes must be treated to meet the LDR program’s treatment requirement before they can be land disposed. The requirements are discussed in 5.4 of this manual. The requirements for the alternate treatment standards may apply to a soil or soil mixture or a debris or a debris mixture that is a hazardous waste when the land disposal treatment requirements come into effect for a hazardous waste. These requirements are further discussed in 5.7 of the manual.

### **Receiver Notification and Waste Analysis Plan**

The requirements for notifying a receiver and developing a waste analysis plan may apply to a generator after the land disposal treatment requirements come into effect for a hazardous waste. These requirements are further discussed in 5.8 of the manual.

### **Other Requirements**

The requirements for hazardous wastes produced by a SQG or wastes collected at MHSW depots may apply as the land disposal treatment requirements come into effect for these wastes. These requirements are further discussed in 5.5.1 and 5.5.2 of this manual.



## **6 WASTE MANAGEMENT**

### **6.1 Managing your Waste**

This section of the manual provides information to help generators manage their hazardous wastes appropriately. It discusses what is considered mixing, blending, bulking and intermingling of hazardous wastes at waste generation and waste receiving facilities. It also identifies the main regulatory requirements associated with different waste management options for wastes that are managed on-site and off-site, as well as providing information to help generators understand the provisions of Section 17.1 and Section 17.2 of Regulation 347, which explain when a C of A is required for waste management activities that take place at the waste generation facility.

#### **6.1.1 Mixing, blending and bulking of hazardous wastes**

Regulation 347 limits mixing, blending, bulking or other intermingling of hazardous waste with any other waste or material at the waste generation facility, during transfer to a waste transportation vehicle, and at waste disposal sites. The regulatory provisions for waste generation facilities and waste management systems are provided in detail in 6.1.2 and 6.1.4 of the manual.

The mixing, blending and bulking restrictions apply only to hazardous waste. Regulation 347 does not prevent the mixing, blending or bulking of LIW with similar wastes, and the province's restrictions on these activities are most stringent for wastes that are subject to the LDR requirements.

To determine if a waste can be mixed, blended or bulked with other wastes, the generator first has to identify the type of wastes being generated. Each waste must be characterized at the point of generation to determine if it is hazardous, what type of hazardous waste it is, and whether it is subject to LDR requirements. These steps must be completed before it can be determined whether the waste can be mixed, blended or bulked with any other waste or material. In general, the bulking of waste is not prohibited, provided that the wastes are similar in nature (e.g., solids bulked with other solids, liquids bulked with other liquids), they have the same waste number (i.e., same waste class and waste characterizations) and that no processing takes place. Please see 3.1.3 of the manual for more information on when a waste is generated, and 3.5 of the manual for information on waste characterization.

Once the generator has identified the waste characterization, the waste class, and whether the waste is subject to the LDR requirements for each hazardous waste, a determination can be made on whether mixing, blending or bulking of the waste with another waste or material can take place.

In general, the mixing, blending and bulking of hazardous wastes is limited by the physical state of the waste, the waste class and hazardous waste characterization. However, if a waste is subject to the LDR requirements, the type of treatment needed to meet the treatment requirement must also be considered. Only wastes that are amenable to the same treatment may be considered for mixing, blending or bulking, even if they have the same waste class and waste characterization. Considerations that can help in determining when hazardous wastes may be mixed, blended or bulked or separately managed include the following:

- Do the wastes have the same waste class?

- Are the waste characterizations the same for each waste?
- Are the wastes similar in composition and physical state?
- Can the wastes be managed using the same method of treatment or disposal?
- Have the wastes been generated from similar operations?

In general, a “NO” answer for any of the first four considerations above means that the waste streams should not be mixed, blended or bulked.

Generators should also keep in mind that the mixture and derived-from rules apply to certain hazardous wastes (e.g., listed wastes). When one of these wastes is mixed with any other waste or material or when another waste is derived from this waste, the waste retains the original waste characterization (i.e., a listed waste remains a listed waste), even after it has been treated.

The mixture rule ensures that the waste continues to be defined as a hazardous waste, to prevent the avoidance of appropriate waste management because of dilution. This rule applies if a listed waste (or other waste to which the mixture and derived-from rules apply) is mixed with any other waste or material. The mixed waste maintains its classification as a listed waste, and must be managed as such, even if the hazardous nature of the waste was changed through dilution during the mixing process.

As a general rule, wastes that must meet land disposal treatment requirements may be mixed, blended or bulked if all the wastes are amenable to the same treatment to meet the treatment requirement (i.e., different waste streams need to be treated using the same technology) and all regulated constituents identified in the individual waste streams are reported and treated to meet the treatment requirements (for example the bulking has not diluted the regulated constituents that have been identified in the individual wastes streams with no processing taking place).

Wastes that are subject to the LDR requirements may be mixed, blended or bulked on-site if it is part of a treatment process designed to permit the land disposal of the waste. The regulation also allows a generator to mix, blend or bulk different types of wastes that are subject to the LDR requirements if the generator is sending these wastes to a receiving facility that is approved to mix, blend or bulk these different types of wastes. However, the generator would need a document from the receiver confirming that the receiving facility will take the mixed, blended or bulked wastes. If these conditions are met, the generator may mix, blend or bulk these wastes on-site (please see 6.1.2 of the manual).

If mixing, blending or bulking is being conducted at a waste management facility or through a waste management system, the owner/operator of the facility or system should have the C of A updated to reflect the approved activity that is taking place. This should help remove any doubts about the status of different wastes that are being mixed, blended or bulked. A C of A can be amended to identify the specific waste classes that are allowed to be mixed, blended or bulked. Updating the C of A will also help the waste generator comply with the requirements of subsections 17.1 (2) 5 and 17.1 (2) 11, if the generator plans to mix, blend or bulk wastes subject to the LDR requirements on-site, in accordance with a receiver’s C of A.

#### **6.1.1.1 Examples of what is mixing and what is not considered mixing**

The following examples are not intended to be exhaustive, but rather to provide guidance for generators with respect to the mixing of hazardous wastes.

#### Examples of mixing:

- Wastes with the same waste class and waste characterization and the same physical state, unless the waste is subject to LDR requirements, in which case further restrictions may apply
- Wastes that are generated from similar processes (e.g., waste oils collected from various locations within a plant — i.e., bulking)
- Where processing occurs as a result of mixing (e.g., acid and base results in neutralized waste, although additional land disposal treatment requirements may apply)
- Mixing of different waste classes limited to 251, 252 and 253 combined to create 254 at transfer stations
- Wastes that can be processed using the same treatment method to meet land disposal treatment requirements.

Please note that if a waste is subject to the LDR requirements, a C of A may be required, as set out in Section 17.1 of Regulation 347, even in the cases where mixing is allowed such as the cases illustrated above. In some cases, the generator may obtain a C of A for mixing. In other cases, where it is specified in Regulation 347, the C of A for the receiving facility or the waste transportation system may be sufficient, provided that the generator has a document from the facility that confirms its willingness to accept the mixed waste. Please see the following sections of the manual for more information on when a C of A is needed for on-site activities.

#### Examples of what is not considered mixing:

- Wastes that are not “like” wastes (e.g., oil and solvent)
- Wastes with different primary waste characterizations (e.g., T and H, L and T)
- Wastes that are not in the same physical state (e.g., liquid and solid)
- Wastes that are not similar in composition (e.g., organic and inorganic)
- Wastes that have different land disposal treatment requirements that cannot be achieved using the same method of treatment
- If combining the wastes results in dilution of regulated constituents with no processing taking place (e.g., two wastes that are subject to the LDR requirements with different metal constituents are combined to dilute the metals so that the combined waste is not hazardous for either metal)
- Wastes that are subject to the LDR requirements are combined with wastes that are not subject to the LDR requirements
- Combining wastes to change the nature of the wastes (e.g., a T (leachate toxic) waste and non-hazardous waste combined to create a non-hazardous waste).

Where wastes are combined and it is not considered mixing, the nature of the more hazardous component or the more stringent treatment requirement will apply (e.g., if L and H wastes are mixed, the mixture must be classified as H (the mixture rule). If a waste subject to LDR requirements is mixed with a waste that is not subject to LDR requirements, the entire mixture must be treated to the applicable land disposal treatment requirements.

### **6.1.2 Regulatory Requirements**

The options available to generators for managing their hazardous wastes are outlined in 6.1.1 of the manual. Table 6.1 below outlines the main regulatory requirements associated with each of those waste management options, according to whether the waste is being managed on- or off-site. Each of the

regulatory requirements identified in the table is briefly discussed in this section. Table 6.1 summarizes information that was provided in Section 4 through 6 of this manual.

### Registration

All generators of subject wastes are required to register their wastes with the Ministry. The simplest way to do this is online through the HWIN system, although registrations can also be made on paper. No subject waste may be transported within Ontario without a valid generator registration document. Generators are required to register each subject waste stream produced at each operational site. Section 4 above of the manual provides guidance on how to register these wastes.

### Generator Registration Fee

Generators of subject wastes are required to pay an annual generator registration fee to the Ministry. The tonnage component of the generator registration fee is applied at the waste generation site, based on the quantity of hazardous waste it generates. This component of the fee applies to all hazardous waste generated at a waste generation facility, whether the waste is shipped off-site or disposed of on-site, except as indicated in Table 6.1. However, the tonnage component of the fee does not apply to wastes that are sent to facilities on the HWIN List of Recycling Facilities. The generator registration fee does not apply to exempt wastes; nor does it apply to a characteristic waste that is treated on-site so that it is no longer a characteristic waste. The generator registration fee is described in more detail in 4.1.5 of this manual.

### Land Disposal Restrictions (LDR)

The LDR program requires that generators of hazardous wastes pre-treat these wastes to specified treatment requirements before the wastes can be land disposed. Waste generators are responsible for determining whether Ontario's LDR requirements apply to their waste stream, and for notifying the receiver about the nature of the waste and the treatment standards that must be met.

Land disposal treatment requirements apply to all listed wastes and characteristic wastes that will be land disposed. Restrictions apply to waste that are subject to LDR requirements with respect to mixing, blending and bulking of the waste and other waste processing activities conducted on-site. Waste cannot be diluted in order to avoid meeting the required treatment. Generators that process LDR waste on-site are also required to develop and maintain a waste analysis plan, and maintain records for at least two years.

**Table 6.1 - Options for managing hazardous waste and associated regulatory requirements**

		Regulatory Requirement							
		Generator Registration		Registration Fee		LDR <sup>1</sup>		Part V (Processor <sup>2</sup> )	
		Location of Waste Management Activity							
Management Option	Type of Waste or Management Method	On-Site	Off-Site	On-Site	Off-Site	On-Site	Off-Site	On-Site	Off-Site
Reuse		N	-	N	-	N	-	N	-
Recycle (S.3)		N	N	N	N	N	N	N	N

HWIN recycling		-	Y	-	N <sup>3</sup>	-	N	-	Y
Processing	Hazardous waste other than a listed waste or characteristic waste	Y	Y	Y	Y	N	N	N <sup>5</sup>	Y
	Listed waste	Y	Y	Y	Y	Y	Y	N <sup>5</sup>	Y
	Characteristic waste – non-LDR	N	Y	N	Y	N	Y	N <sup>5</sup>	Y
	Characteristic waste – LDR	Y <sup>8</sup> (N <sup>9</sup> )	Y	N	Y(N <sup>4</sup> )	Y	Y	N <sup>5</sup>	Y
Waste-derived fuel		Y	Y	Y	Y	N	N	N/Y <sup>6</sup>	N/Y <sup>6</sup>
Disposal	Land disposal – characteristic waste and listed waste	Y	Y	Y	Y	Y	Y	Y	Y
	Land disposal – hazardous waste other than characteristic waste or listed waste	Y	Y	Y	Y	N	N	Y	Y
	Incineration	Y	Y	Y	Y	N	N	Y	Y
	OWRA, sewer	Y	Y	Y	Y	N	N	N	N
Storage		Y	-	N	-	N	-	Y <sup>7</sup>	-

Notes: “Y” = Yes, “N” = No, “-” = not applicable

<sup>1</sup> Although LDR requirements may not always be applied at the point of generation, wastes generated from these waste management activities must be characterized to determine if the waste is hazardous and subject to the LDR requirements, even if the waste was not considered an LDR waste at the original waste generation facility (e.g., waste that is sent for HWIN recycling).

<sup>2</sup> In this case, the processor is the generator when the processing is done on-site, and the receiver if the processing is done off-site. If a third party is contracted to process the waste at a waste generation facility, the third party must have a C of A for the mobile treatment unit.

<sup>3</sup> Transportation of the waste must be direct from the waste generation facility to the HWIN recycling facility to obtain an exemption from the tonnage component of the generator registration fee.

<sup>4</sup> The tonnage component of the generator registration fee does not apply if subject waste that is no longer hazardous is treated off-site (i.e., to treat regulated constituents in Schedule 6).

<sup>5</sup> To be exempt from the requirement for a Part V approval, the on-site processing must be in compliance with Section 17.1 of Regulation 347.

<sup>6</sup> Sections 28.3, 28.4 and 28.5 of Regulation 347 identify the C of A requirements for waste-derived fuel sites. The requirement is based on the source of the waste-derived fuel, the quantity of waste-derived fuel utilized, and the date the site first began operating.

<sup>7</sup> A Part V approval is required for the storage of subject waste for periods of more than two years.

<sup>8</sup> Registration is required if the processed waste or residual from the processing is a subject waste.

<sup>9</sup> Registration is not required if the processed waste or residual from the processing is not a subject waste.

As indicated in Table 6.1, certain waste management activities, such as HWIN recycling, are not considered to be land disposal. Generators whose waste is not subject to LDR at the waste generation facility are not required to complete the LDR portion (Part 2B) of the generator registration form, and do not need to comply with LDR notification requirements. Although some wastes may not be subject to LDR requirements at the original waste generation facility, wastes that are generated through processing

(i.e., at a facility on the HWIN List of Recycling Facilities) must be characterized, and the processed waste may be subject to LDR requirements at the new point of generation, if the waste is to be land disposed.

An overview of the LDR program is included in 5.2 above of this manual. A separate handbook has been developed for generators whose wastes are subject to the LDR program and is available on the Ministry's website at <http://www.ene.gov.on.ca/envision/land/hazardousWaste.htm> (please see the References section of the manual for further information).

### Part V Approval

Section 27 of the EPA states that “no person shall use, operate, establish, alter, enlarge or extend, a waste management system or a waste disposal site, unless a certificate of approval” that authorizes the activity has been issued by the Director. Generators, carriers, processors and receivers of hazardous waste must operate within the parameters of their Part V approval.

Regulation 347 exempts certain activities from the requirements of Section 27 of the EPA. The Section 3 exemptions in Regulation 347 are discussed earlier in this manual. In addition, Section 17.1 of the regulation outlines the provisions with respect to activities that can be carried out at the generator's site without a C of A. These provisions are discussed in more detail in 6.1.3 in this manual.

Generators should note that this manual identifies when a C of A is required under Part V of the EPA (waste approval). Generators should also be aware that they might need to comply with other federal, provincial and local regulations and bylaws.

### **6.1.3 On-site storage, processing and other waste management practices**

Regulation 347 contains provisions that apply to all waste generators with respect to how the waste is managed at their site. These provisions (found in Section 17.1 and Section 17.2 of the regulation) relate to on-site storage, mixing and processing of waste. The on-site waste management provisions (detailed in Section 17.1) apply to both municipal waste and subject waste. The on-site storage provisions (found in Section 17.2) apply only to subject waste.

The on-site waste management practices and on-site storage provisions in Sections 17.1 and 17.2 of Regulation 347 apply to all waste generation facilities that are used mainly for activities other than waste management. Please note that there are specific cases where Sections 17.1 and 17.2 do not apply, and these are described at the end of this section.

#### **6.1.3.1 On-Site Processing and Other Waste Management Practices**

Section 17.1 of Regulation 347 applies to all waste generation facilities that handle, mix or process wastes. It identifies the conditions under which a C of A under Part V of the EPA is not required for various types of waste management practices. Generators should note that although a C of A may not be required under Part V of the EPA for these activities, other approval requirements (e.g., for air quality, wastewater discharges) could apply. Generators should also note that Section 17.1 does not apply to a third party who may be contracted to process waste at a waste generation facility, and that in such cases a C of A may be required for mobile waste processing units.

Section 17.1 and Section 17.2 apply to waste generation facilities whose principal function is not waste management. Waste that comes to a waste generation facility from off-site generators must be both legally transported to the facility and legally received by the facility in accordance with Part V of the EPA and Regulation 347.

If the waste is generated on-site, or obtained legally from off-site generators, a C of A is not required for the on-site waste management practices described below. Waste that is obtained at a waste generation facility from off-site generators must be both legally transported to the facility and legally received by the facility in accordance with Part V of the EPA and Regulation 347. Obtaining the waste legally does not

In this section, the use of the term “mixing” includes mixing, bulking, blending or intermingling with any other waste or material.

simply mean that the waste was transported by an approved carrier. Rather, the waste generation facility must also be able receive the waste legally (e.g., have a C of A for this purpose, or not be required to have a C of A to accept the waste).

#### Waste Handling

No C of A is required for activities related to the production, collection, handling or storage for 24 months or less of subject waste.

#### Waste Processing

No C of A is required for the processing of waste on-site, unless the processing involves any of the following:

- The combustion or land application of municipal waste, hazardous waste or LIW
- The mixing of any waste or other material with wastes that are subject to LDR treatment requirements, or
- The processing of soil.

There are specific circumstances in which the processing of waste on-site may involve combustion of municipal waste, or the mixing of hazardous wastes that are subject to LDR requirements. In these circumstances, no C of A is required if:

- The processing of municipal waste occurs at an on-site incinerator where no hazardous waste or LIW is incinerated (this specific case is outlined in Section 28 of Regulation 347)
- The processing includes the mixing of characteristic or listed waste with other waste or material if it is part of the processing needed to meet the LDR requirements, or
- The processing includes the mixing of characteristic or listed waste with other waste or material if the waste is transported to a receiving facility that has a C of A that permits this practice, and the receiver has agreed to accept the processed waste.

#### Waste recycling

No C of A is required for the processing of waste so that it becomes exempt from Part V of the EPA, in accordance with the requirements of paragraph 7 of subsection 3 (1) of Regulation 347.

### Wastewater Discharge

No C of A is required for wastes introduced or processed to be introduced into a sewage works or sewage system that is subject to the OWRA, or that was established before August 3, 1957, or that is regulated under Part 8 of Ontario Regulation 403/97 (Building Code) made under the *Building Code Act, 1992*.

### Retail Sale

No C of A is required for the packaging or offering of waste for retail sale, or any processing needed to package or offer the waste for retail sale, to meet a realistic market demand.

### Waste Transfer to a Waste Transportation Vehicle

A waste generation facility does not need a C of A for the transfer of waste to a waste transportation vehicle in the following three scenarios:

- When municipal waste or subject waste that is not subject to LDR requirements is being transferred
- When hazardous waste that is subject to LDR requirements is being transferred but not mixed with any other waste or material
- When hazardous waste that is subject to LDR requirements is mixed with any other waste or material and being transferred, provided that:
  - the mixing is in accordance with the C of A for the receiving facility, and the carrier has a document from the receiver agreeing to accept the mixed waste, or
  - the mixing is in accordance with the C of A for a waste transportation system that includes the vehicle to which the waste is being transferred.

## **6.1.3.2 On-Site Storage of Subject Waste**

The requirements of Section 17.2 of Regulation 347 apply to waste generation facilities that store subject waste. A summary of these requirements is provided below. In addition to these storage requirements, the Ministry has developed guidelines, entitled “Guidelines for Environmental Protection Measures at Chemical and Waste Storage Facilities, May 2007.” The guidelines are designed for use by owners, operators and designers of chemical and waste storage facilities, as well as MOE staff. The guidelines will help these user groups to assess the necessary environmental protection measures for chemical and waste storage areas. The guidelines are not intended to replace, but rather to supplement existing codes and regulations. The guidelines are available on the Ministry’s website at [http://www.ene.gov.on.ca/envision/env\\_reg/er/documents/2007/StorageGuidelines.pdf](http://www.ene.gov.on.ca/envision/env_reg/er/documents/2007/StorageGuidelines.pdf).

Waste generators are required to properly manage wastes at their facilities, and to ensure that the wastes are stored in an environmentally safe manner. Wastes must be stored, handled and maintained to prevent leaks or spills, or damage to or deterioration of the container in which the wastes are stored.

The first time that a subject waste is stored for more than 90 days, generators must provide a notice to MOE’s Regional Director that informs the Ministry about the stored waste and future plans regarding its storage and disposal. The submission of this notice can be made using the Notice of the Storage of Subject Waste provided in Appendix H of this manual. The notice is also available on the Ministry’s Hazardous Waste Rules and Regulations page, which can be accessed through the following link: <http://www.ene.gov.on.ca/en/land/hazardouswaste/hazardouswaste.php>.

Please note that the information submitted in this report meets the legal obligations of Section 17.2 of Regulation 347 with respect to record-keeping. If the notice to the Regional Director is provided in another format, the generator must ensure that all record-keeping requirements are met.



A record of the information submitted to the Regional Director must be retained at the location where the waste is being stored, and kept for at least two years after the waste is no longer stored. Further written notice must be given to the Regional Director within five business days only if there is a change in the original information submitted, or if the waste generation facility closes.

Subject waste **cannot** be stored for more than 24 months at a waste generation facility unless the facility has made a completed application for a Certificate of Approval.

The 90-day storage period begins as soon as a subject waste is first stored at a waste generation facility. The 90-day storage period does not start when a container used to store the waste is full and ready to be shipped off-site for disposal. For waste streams that have a small quantity exemption associated with their primary characteristic, the waste is first considered to be stored when an amount equal to or greater than the SQE amount has been accumulated in a container or other means of storage. In the case of wastes for which there is no small quantity exemption, the 90-day period begins as soon as any amount of the waste is accumulated in a container or other means of storage. A brief discussion on when a waste is generated and becomes a subject waste is included in 3.1.3 above of this manual.

Subject waste cannot be stored for more than 24 months unless a completed application for a C of A has been made to the Ministry. Information on submitting an application can be found in the Ministry's Guide for Applying for Approval of Waste Disposal Sites. After March 31, 2006 — the date on which this requirement was implemented — the 24-month period begins when the subject waste is first stored. This provision is designed to ensure that subject waste is stored appropriately, but not indefinitely. At the same time, it ensures that wastes that are subject to LDR requirements will not be stored indefinitely as a means of avoiding appropriate treatment.

The 24-month limit on storage does not apply to a waste that is stored at a site in a manner that allows it to be emptied or removed and disposed of on a regular basis, more frequently than every 24 months (e.g., waste stored in a drum that is emptied for disposal every six months on an ongoing basis). The requirement for a C of A permitting long-term storage applies to facilities where wastes have been in storage for an extended period of time (e.g., a drum of waste that has been filled and stored for more than two years) and where no reasonable effort has been made to dispose of the waste.

#### **6.1.3.3 Specific Cases Where Section 17.1 and Section 17.2 Do Not Apply**

Section 17.1 and Section 17.2 of Regulation 347 do not apply to PCB waste. Generators that handle, store or process PCB waste on-site must do so in accordance with Ontario Regulations 362, 352 and other provisions in Regulation 347. Please also note that there are federal government regulations covering PCB storage and processing that apply to these wastes. Sections 17.1 and 17.2 do not apply to a waste generation facility that receives soil or soil mixtures from off-site. A Certificate of Approval is therefore required to manage these wastes appropriately.

#### **6.1.4 Requirements for Waste Disposal Sites and Waste Management Systems**

The following is a summary of the requirements in Section 14.0.1 and 16 (1) 5.1 that deal with the mixing of hazardous wastes for waste disposal sites and waste management systems.

Section 14.0.1 of Regulation 347 provides that hazardous waste which is managed at or transferred to a waste disposal site may only be mixed with other waste or material in accordance with the C of A for the waste disposal site. Paragraph 5.1 of subsection 16 (1) of Regulation 347 provides that hazardous waste transferred to or from, or transported in, a waste transportation vehicle may only be mixed with other waste or material if:

- The mixing is in accordance with the C of A or provisional C of A issued for the receiving facility named in the related manifest, and the carrier has a document from the receiving facility agreeing to accept the mixed waste, or
- The mixing is in accordance with the C of A or provisional C of A for a waste transportation system that includes the waste transportation vehicle.

## ENVIRONMENTAL LINKS

Environmental Links	Website Address
Canadian Council of Ministers of the Environment (CCME)	<a href="http://www.ccme.ca">www.ccme.ca</a>
CCME list of websites for other Canadian jurisdictions	<a href="http://www.ccme.ca/about/contacts/jurisdictions.html">www.ccme.ca/about/contacts/jurisdictions.html</a>
Environment Canada homepage	<a href="http://www.ec.gc.ca">www.ec.gc.ca</a>
Environment Canada – Waste Reduction and Management Division	<a href="http://www.ec.gc.ca/drgd-wrmd/">www.ec.gc.ca/drgd-wrmd/</a>
Land Disposal Restrictions (LDR) Handbook	<a href="http://www.ene.gov.on.ca/envision/land/hazardousWaste.htm">www.ene.gov.on.ca/envision/land/hazardousWaste.htm</a>
MOE certificates of approval web page	<a href="http://www.ene.gov.on.ca/en/business/cofa/index.php">http://www.ene.gov.on.ca/en/business/cofa/index.php</a>
MOE contact information	<a href="http://www.ene.gov.on.ca/envision/org/op.htm#Reg/Dist">http://www.ene.gov.on.ca/envision/org/op.htm#Reg/Dist</a>
MOE Hazardous Waste Rules and Regulations page	<a href="http://www.ene.gov.on.ca/envision/land/hazardousWaste.htm">www.ene.gov.on.ca/envision/land/hazardousWaste.htm</a>
MOE homepage	<a href="http://www.ene.gov.on.ca/en/index.php">http://www.ene.gov.on.ca/en/index.php</a>
MOE publications	<a href="http://www.ene.gov.on.ca/en/publications/index.php">http://www.ene.gov.on.ca/en/publications/index.php</a>
Ontario statutes and regulations	<a href="http://www.e-laws.gov.on.ca">www.e-laws.gov.on.ca</a>
R.R.O. 1990, Regulation 347, General – Waste Management	<a href="http://www.e-laws.gov.on.ca/html/regs/english/elaws_regs_900347_e.htm">http://www.e-laws.gov.on.ca/html/regs/english/elaws_regs_900347_e.htm</a>
USEPA Land Disposal Restrictions web page	<a href="http://www.epa.gov/epawaste/hazard/tsd/td/disposal.htm">http://www.epa.gov/epawaste/hazard/tsd/td/disposal.htm</a>

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## **Schedule 1 – Hazardous Industrial Waste**

### **[Appendix A](#)**

## **Schedule 1 – Hazardous Industrial Waste**

## Schedule 1 – Hazardous Industrial Waste

Hazardous Industrial Waste from Non-Specific Sources					
Hazardous Industrial Waste		Regulated Constituents (and Treatment Subcategories <sup>1</sup> )		Land Disposal Treatment Requirements	
				Aqueous Waste	Non-aqueous Waste
Column 1	Column 2	Column 3	Column 4	Column 5	Column 6
Haz. Waste Number <sup>2</sup>	Waste	Generic Name or other description	CAS Number <sup>3</sup>	Treatment Code <sup>4</sup> or Concentration <sup>5</sup> (mg/L)	Treatment Code <sup>4</sup> or Concentration <sup>6</sup> (mg/kg, unless otherwise indicated)
F001	The following spent halogenated solvents used in degreasing: Tetrachloroethylene, trichloroethylene, methylene chloride, 1,1,1-trichloroethane, carbon tetrachloride and chlorinated fluorocarbons; all spent solvent mixtures/blends used in degreasing containing, before use, a total of ten per cent or more (by volume) of one or more of the above halogenated solvents or those solvents listed in F002, F004 and F005; and still bottoms from the recovery of these spent solvents and spent solvent mixtures.	Acetone	67-64-1	0.28	160
		Benzene	71-43-2	0.14	10
		n-Butyl alcohol	71-36-3	5.6	2.6
		Carbon disulfide	75-15-0	3.8	NA
		Carbon tetrachloride	56-23-5	0.057	6.0
		Chlorobenzene	108-90-7	0.057	6.0
		o-Cresol	95-48-7	0.11	5.6
		m-Cresol (difficult to distinguish from p-cresol)	108-39-4	0.77	5.6
		p-Cresol (difficult to distinguish from m-cresol)	106-44-5	0.77	5.6
		Cresol-mixed isomers (Cresylic acid) (sum of o-, m-, and p-cresol concentrations)	1319-77-3	0.88	11.2
		Cyclohexanone	108-94-1	0.36	NA
		o-Dichlorobenzene	95-50-1	0.088	6.0
		Ethyl acetate	141-78-6	0.34	33
		Ethyl benzene	100-41-4	0.057	10
		Ethyl ether	60-29-7	0.12	160
		Isobutyl alcohol	78-83-1	5.6	170
		Methanol	67-56-1	5.6	NA
		Methylene chloride	75-9-2	0.089	30
		Methyl ethyl ketone	78-93-3	0.28	36
		Methyl isobutyl ketone	108-10-1	0.14	33
		Nitrobenzene	98-95-3	0.068	14
		Pyridine	110-86-1	0.014	16
		Tetrachloroethylene	127-18-4	0.056	6.0
		Toluene	108-88-3	0.08	10
		1,1,1-Trichloroethane	71-55-6	0.054	6.0
		1,1,2-Trichloroethane	79-00-5	0.054	6.0
		1,1,2-Trichloro-1,2,2-trifluoroethane	76-13-1	0.057	30
		Trichloroethylene	79-01-6	0.054	6.0
		Trichlorofluoromethane	75-69-4	0.02	30
		Xylenes-mixed isomers (sum of o-, m-, and p-xylene concentrations)	1330-20-7	0.32	30
F002	The following spent halogenated solvents: Tetrachloroethylene, methylene chloride, trichloroethylene, 1,1,1-trichloroethane, chlorobenzene, 1,1,2-trichloro-1,2,2-trifluoroethane, ortho-dichlorobenzene, trichlorofluoromethane and 1,1,2-trichloro-ethane; all spent solvent	same as F001			

## Schedule 1 – Hazardous Industrial Waste

	mixtures/blends containing, before use, a total of ten per cent or more (by volume) of one or more of the above halogenated solvents or those listed in F001, F004 or F005; and still bottoms from the recovery of these spent solvents and spent solvent mixtures.				
F003	The following spent non-halogenated solvents: Xylene, acetone, ethyl acetate, ethyl benzene, ethyl ether, methyl isobutyl ketone, n-butyl alcohol, cyclohexanone and methanol; all spent solvent mixtures/blends containing, before use, only the above spent non-halogenated solvents; and all spent solvent mixtures/blends containing, before use, one or more of the above non-halogenated solvents, and, a total of ten per cent or more (by volume) of one or more of those solvents listed in F001, F002, F004 and F005; and still bottoms from the recovery of these spent solvents and spent solvent mixtures.	<b>Treatment Subcategory 1</b>			
		All F003 wastes, except those identified in Subcategory 2:			
		same as F001			
		<b>Treatment Subcategory 2</b>			
		F003 solvent wastes, that contain any combination of one or more of the following three solvents as the only listed F001-5 solvents: carbon disulfide, cyclohexanone and/or methanol:			
		Carbon disulfide	75-15-0	3.8	4.8 mg/L TCLP
		Cyclohexanone	108-94-1	0.36	0.75 mg/L TCLP
Methanol	67-56-1	5.6	0.75 mg/L TCLP		
F004	The following spent non-halogenated solvents: Cresols and cresylic acid, and nitrobenzene; all spent solvent mixtures/blends containing, before use, a total of ten per cent or more (by volume) of one or more of the above non-halogenated solvents or those solvents listed in F001, F002 and F005; and still bottoms from the recovery of these spent solvents and spent solvent mixtures.	same as F001			
F005	The following spent non-halogenated solvents: Toluene, methyl ethyl ketone, carbon disulfide, isobutanol, pyridine, benzene, 2-ethoxyethanol, and 2-nitropropane; all spent solvent mixtures/blends containing, before use, a total of ten per cent or more (by volume) of one or more of the above non-halogenated solvents or those solvents listed in F001, F002 or F004; and still	<b>Treatment Subcategory 1</b>			
		All F003 wastes, except those identified in Subcategory 2:			
		same as F001			
		<b>Treatment Subcategory 2</b>			
		F003 solvent wastes, that contain any combination of one or more of the following three solvents as the only listed F001-5 solvents: carbon disulfide, cyclohexanone and/or methanol:			
		same as F003 Subcategory 2			
		<b>Treatment Subcategory 3</b>			
F005 solvent waste containing 2-Nitropropane as the only listed F001-5 solvents:					
2-Nitropropane	79-46-9	(WETOX or CHOXD) fb CARBN; or CMBST	CMBST		
		<b>Treatment Subcategory 4</b>			
		F005 solvent waste containing 2-Ethoxyethanol as the only listed F001-5 solvents:			

## Schedule 1 – Hazardous Industrial Waste

	bottoms from the recovery of these spent solvents and spent solvent mixtures.	2-Ethoxyethanol	110-80-5	BIODG; or CMBST	CMBST
F006	Wastewater treatment sludges from electroplating operations except from the following processes: (1) Sulfuric acid anodizing of aluminum; (2) tin plating on carbon steel; (3) zinc plating (segregated basis) on carbon steel; (4) aluminum or zinc-aluminum plating on carbon steel; (5) cleaning/stripping associated with tin, zinc and aluminum plating on carbon steel; and (6) chemical etching and milling of aluminum.	Cadmium	7440-43-9	0.69	0.11 mg/L TCLP
		Chromium (Total)	7440-47-3	2.77	0.60 mg/L TCLP
		Cyanides (Total) <sup>7</sup>	57-12-5	1.2	590
		Cyanides (Amenable) <sup>7</sup>	57-12-5	0.86	30
		Lead	7439-92-1	0.69	0.75 mg/L TCLP
		Nickel	7440-02-0	3.98	11 mg/L TCLP
		Silver	7440-22-4	NA	0.14 mg/L TCLP
F007	Spent cyanide plating bath solutions from electroplating operations.	Cadmium	7440-43-9	NA	0.11 mg/L TCLP
		Chromium (Total)	7440-47-3	2.77	0.60 mg/L TCLP
		Cyanides (Total) <sup>7</sup>	57-12-5	1.2	590
		Cyanides (Amenable) <sup>7</sup>	57-12-5	0.86	30
		Lead	7439-92-1	0.69	0.75 mg/L TCLP
		Nickel	7440-02-0	3.98	11 mg/L TCLP
		Silver	7440-22-4	NA	0.14 mg/L TCLP
F008	Plating bath residues from the bottom of plating baths from electroplating operations where cyanides are used in the process.	Cadmium	7440-43-9	NA	0.11 mg/L TCLP
		Chromium (Total)	7440-47-3	2.77	0.60 mg/L TCLP
		Cyanides (Total) <sup>7</sup>	57-12-5	1.2	590
		Cyanides (Amenable) <sup>7</sup>	57-12-5	0.86	30
		Lead	7439-92-1	0.69	0.75 mg/L TCLP
		Nickel	7440-02-0	3.98	11 mg/L TCLP
		Silver	7440-22-4	NA	0.14 mg/L TCLP
F009	Spent stripping and cleaning bath solutions from electroplating operations where cyanides are used in the process.	Cadmium	7440-43-9	NA	0.11 mg/L TCLP
		Chromium (Total)	7440-47-3	2.77	0.60 mg/L TCLP
		Cyanides (Total) <sup>7</sup>	57-12-5	1.2	590
		Cyanides (Amenable) <sup>7</sup>	57-12-5	0.86	30
		Lead	7439-92-1	0.69	0.75 mg/L TCLP
		Nickel	7440-02-0	3.98	11 mg/L TCLP
		Silver	7440-22-4	NA	0.14 mg/L TCLP
F010	Quenching bath residues from oil baths from metal heat treating operations where cyanides are used in the process.	Cyanides (Total) <sup>7</sup>	57-12-5	1.2	590
		Cyanides (Amenable) <sup>7</sup>	57-12-5	0.86	NA
F011	Spent cyanide solutions from salt bath pot cleaning from metal heat treating operations.	Cadmium	7440-43-9	NA	0.11 mg/L TCLP
		Chromium (Total)	7440-47-3	2.77	0.60 mg/L TCLP
		Cyanides (Total) <sup>7</sup>	57-12-5	1.2	590
		Cyanides (Amenable) <sup>7</sup>	57-12-5	0.86	30
		Lead	7439-92-1	0.69	0.75 mg/L TCLP
		Nickel	7440-02-0	3.98	11 mg/L TCLP
		Silver	7440-22-4	NA	0.14 mg/L TCLP
F012	Quenching waste water treatment sludges from metal heat treating operations where cyanides are used in the process.	Cadmium	7440-43-9	NA	0.11 mg/L TCLP
		Chromium (Total)	7440-47-3	2.77	0.60 mg/L TCLP
		Cyanides (Total) <sup>7</sup>	57-12-5	1.2	590
		Cyanides (Amenable) <sup>7</sup>	57-12-5	0.86	30
		Lead	7439-92-1	0.69	0.75 mg/L TCLP
		Nickel	7440-02-0	3.98	11 mg/L TCLP
		Silver	7440-22-4	NA	0.14 mg/L TCLP
F019	Wastewater treatment sludges from the chemical conversion coating of	Chromium (Total)	7440-47-3	2.77	0.60 mg/L TCLP
		Cyanides (Total) <sup>7</sup>	57-12-5	1.2	590
		Cyanides (Amenable) <sup>7</sup>	57-12-5	0.86	30



## Schedule 1 – Hazardous Industrial Waste

	aluminum except from zirconium phosphating in aluminum can washing when such phosphating is an exclusive conversion coating process.				
F020	Wastes (except wastewater and spent carbon from hydrogen chloride purification) from the production or manufacturing use (as a reactant, chemical intermediate, or component in a formulating process) of tri- or tetrachlorophenol, or of intermediates used to produce their pesticide derivatives. (This listing does not include wastes from the production of Hexachlorophene from highly purified 2,4,5-trichlorophenol.)	HxCDDs (All Hexachlorodibenzo-p-dioxins)	NA	0.000063	0.001
		Hx CDFs (All Hexachlorodibenzofurans)	NA	0.000063	0.001
		PeCDDs (All Pentachlorodibenzo-p-dioxins)	NA	0.000063	0.001
		PeCDFs (All Pentachlorodibenzofurans)	NA	0.000035	0.001
		Pentachlorophenol	87-86-5	0.089	7.4
		TCDDs (All Tetrachlorodibenzo-p-dioxins)	NA	0.000063	0.001
		TCDFs (All Tetrachlorodibenzofurans)	NA	0.000063	0.001
		2,4,5-Trichlorophenol	95-95-4	0.18	7.4
		2,4,6-Trichlorophenol	88-06-2	0.035	7.4
		2,3,4,6-Tetrachlorophenol	58-90-2	0.03	7.4
F021	Wastes (except wastewater and spent carbon from hydrogen chloride purification) from the production or manufacturing use (as a reactant, chemical intermediate, or component in a formulating process) of pentachlorophenol, or of intermediates used to produce its derivatives.	Same as F020			
F022	Wastes (except wastewater and spent carbon from hydrogen chloride purification) from the manufacturing use (as a reactant, chemical intermediate, or component in a formulating process) of tetra-, penta-, or hexachlorobenzenes under alkaline conditions.	Same as F020			
F023	Wastes (except wastewater and spent carbon from hydrogen chloride purification) from the production of materials on equipment previously used for the production or manufacturing use (as a reactant, chemical intermediate, or component in a formulating process) of tri- and tetrachlorophenols. (This listing does not include wastes from equipment used only for the production or use of Hexachlorophene from highly purified 2,4,5-trichlorophenol.)	Same as F020			
F024	Process wastes, including	All F024 wastes	NA	CMBST <sup>8</sup>	CMBST <sup>8</sup>

## Schedule 1 – Hazardous Industrial Waste

	but not limited to, distillation residues, heavy ends, tars, and reactor cleanout wastes, from the production of certain chlorinated aliphatic hydrocarbons by free radical catalyzed processes. These chlorinated aliphatic hydrocarbons are those having carbon chain lengths ranging from one to and including five, with varying amounts and positions of chlorine substitution. (This listing does not include wastewaters, wastewater treatment sludges, spent catalysts, and wastes listed in Part A or B of Schedule 2.)	2-Chloro-1,3-butadiene	126-99-8	0.057	0.28
		3-Chloropropylene	107-05-1	0.036	30
		1,1-Dichloroethane	75-34-3	0.059	6.0
		1,2-Dichloroethane	107-06-2	0.21	6.0
		1,2-Dichloropropane	78-87-5	0.85	18
		cis-1,3-Dichloropropylene	10061-01-5	0.036	18
		trans-1,3-Dichloropropylene	10061-02-6	0.036	18
		bis(2-Ethylhexyl)phthalate	117-81-7	0.28	28
		Hexachloroethane	67-72-1	0.055	30
		Chromium (Total)	7440-47-3	2.77	0.60 mg/L TCLP
		Nickel	7440-02-0	3.98	11 mg/L TCLP
F025	Condensed light ends, spent filters and filter aids, and spent desiccant wastes from the production of certain chlorinated aliphatic hydrocarbons, by free radical catalyzed processes. These chlorinated aliphatic hydrocarbons are those having carbon chain lengths ranging from one to and including five, with varying amounts and positions of chlorine substitution.	<b>Treatment Subcategory 1</b>			
		F025 Light Ends:			
		Carbon tetrachloride	56-23-5	0.057	6.0
		Chloroform	67-66-3	0.046	6.0
		1,2-Dichloroethane	107-06-2	0.21	6.0
		1,1-Dichloroethylene	75-35-4	0.025	6.0
		Methylene chloride	75-9-2	0.089	30
		1,1,2-Trichloroethane	79-00-5	0.054	6.0
		Trichloroethylene	79-01-6	0.054	6.0
		Vinyl chloride	75-01-4	0.027	6.0
		<b>Treatment Subcategory 2</b>			
		F025 Spent Filters/Aids and Desiccants:			
		Carbon tetrachloride	56-23-5	0.057	6.0
		Chloroform	67-66-3	0.046	6.0
		Hexachlorobenzene	118-74-1	0.055	10
		Hexachlorobutadiene	87-68-3	0.055	5.6
		Hexachloroethane	67-72-1	0.055	30
		Methylene chloride	75-9-2	0.089	30
		1,1,2-Trichloroethane	79-00-5	0.054	6.0
		Trichloroethylene	79-01-6	0.054	6.0
		Vinyl chloride	75-01-4	0.27	6.0
F026	Wastes (except wastewater and spent carbon from hydrogen chloride purification) from the production of materials on equipment previously used for the manufacturing use (as a reactant, chemical intermediate, or component in a formulating process) of tetra-, penta-, or hexachlorobenzene under alkaline conditions.	Same as F020			
F027	Discarded unused formulations containing tri-, tetra-, or pentachlorophenol or discarded unused formulations containing compounds derived from these chlorophenols. (This listing does not include	HxCDDs (All Hexachlorodibenzo-p-dioxins)	NA	0.000063	0.001
		HxCDFs (All Hexachlorodibenzofurans)	NA	0.000063	0.001
		PeCDDs (All Pentachlorodibenzo-p-dioxins)	NA	0.000063	0.001
		PeCDFs (All Pentachlorodibenzofurans)	NA	0.000035	0.001

## Schedule 1 – Hazardous Industrial Waste

	formulations containing Hexachlorophene synthesized from prepurified 2,4,5-trichlorophenol as the sole component.)	Pentachlorophenol	87-86-5	0.089	7.4
		TCDDs (All Tetrachlorodibenzo-p-dioxins)	NA	0.000063	0.001
		TCDFs (All Tetrachlorodibenzofurans)	NA	0.000063	0.001
		2,4,5-Trichlorophenol	95-95-4	0.18	7.4
		2,4,6-Trichlorophenol	88-06-2	0.035	7.4
		2,3,4,6-Tetrachlorophenol	58-90-2	0.03	7.4
F028	Residues resulting from the incineration or thermal treatment of soil contaminated with Hazardous Waste Numbers F020, F021, F022, F023, F026 and F027.	HxCDDs (All Hexachlorodibenzo-p-dioxins)	NA	0.000063	0.001
		HxCDFs (All Hexachlorodibenzofurans)	NA	0.000063	0.001
		PeCDDs (All Pentachlorodibenzo-p-dioxins)	NA	0.000063	0.001
		PeCDFs (All Pentachlorodibenzofurans)	NA	0.000035	0.001
		Pentachlorophenol	87-86-5	0.089	7.4
		TCDDs (All Tetrachlorodibenzo-p-dioxins)	NA	0.000063	0.001
		TCDFs (All Tetrachlorodibenzofurans)	NA	0.000063	0.001
		2,4,5-Trichlorophenol	95-95-4	0.18	7.4
		2,4,6-Trichlorophenol	88-06-2	0.035	7.4
		2,3,4,6-Tetrachlorophenol	58-90-2	0.03	7.4
F032	Wastewaters (except those that have not come into contact with process contaminants), process residuals, preservative drippage, and spent formulations from wood preserving processes generated at plants that currently use or have previously used chlorophenolic formulations (except potentially cross-contaminated wastes that have had the F032 waste code deleted in accordance with s. 261.35 <sup>9</sup> or potentially cross-contaminated wastes that are otherwise currently regulated as hazardous wastes (i.e., F034 or F035), and where the generator does not resume or initiate use of chlorophenolic formulations). This listing does not include K001 bottom sediment sludge from the treatment of wastewater from wood preserving processes that use creosote and/or pentachlorophenol.	Acenaphthene	83-32-9	0.059	3.4
		Anthracene	120-12-7	0.059	3.4
		Benz(a)anthracene	56-55-3	0.059	3.4
		Benzo(b)fluoranthene (difficult to distinguish from benzo(k)fluoranthene)	205-99-2	0.11	6.8
		Benzo(k)fluoranthene (difficult to distinguish from benzo(b)fluoranthene)	207-08-9	0.11	6.8
		Benzo(a)pyrene	50-32-8	0.061	3.4
		Chrysene	218-01-9	0.059	3.4
		Dibenz(a,h)anthracene	53-70-3	0.055	8.2
		2,4-Dimethyl phenol	105-67-9	0.036	14
		Fluorene	86-73-7	0.059	3.4
		Hexachlorodibenzo-p-dioxins	NA	0.000063 or CMBST <sup>8</sup>	0.001 or CMBST <sup>8</sup>
		Hexachlorodibenzofurans	NA	0.000063 or CMBST <sup>8</sup>	0.001 or CMBST <sup>8</sup>
		Indeno (1,2,3-cd) pyrene	193-39-5	0.0055	3.4
		Naphthalene	91-20-3	0.059	5.6
		Pentachlorodibenzo-p-dioxins	NA	0.000063 or CMBST <sup>8</sup>	0.001 or CMBST <sup>8</sup>
		Pentachlorodibenzofurans	NA	0.000035 or CMBST <sup>8</sup>	0.001 or CMBST <sup>8</sup>
		Pentachlorophenol	87-86-5	0.089	7.4
		Phenanthrene	85-01-8	0.059	5.6
		Phenol	108-95-2	0.039	6.2
		Pyrene	129-00-0	0.067	8.2
		Tetrachlorodibenzo-p-dioxins	NA	0.000063 or CMBST <sup>8</sup>	0.001 or CMBST <sup>8</sup>
		Tetrachlorodibenzofurans	NA	0.000063 or CMBST <sup>8</sup>	0.001 or CMBST <sup>8</sup>
		2,3,4,6-Tetrachlorophenol	58-90-2	0.03	7.4
		2,4,6-Trichlorophenol	88-06-2	0.035	7.4
		Arsenic	7440-38-2	1.4	5.0 mg/L TCLP
		Chromium (Total)	7440-47-3	2.77	0.60 mg/L TCLP
F034	Wastewaters (except those that have not come into	Acenaphthene	83-32-9	0.059	3.4
		Anthracene	120-12-7	0.059	3.4

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	contact with process contaminants), process residuals, preservative drippage, and spent formulations from wood preserving processes generated at plants that use creosote formulations. This listing does not include K001 bottom sediment sludge from the treatment of wastewater from wood preserving processes that use creosote and/or pentachlorophenol.	Benz(a)anthracene	56-55-3	0.059	3.4
		Benzo(b)fluoranthene (difficult to distinguish from benzo(k)fluoranthene)	205-99-2	0.11	6.8
		Benzo(k)fluoranthene (difficult to distinguish from benzo(b)fluoranthene)	207-08-9	0.11	6.8
		Benzo(a)pyrene	50-32-8	0.061	3.4
		Chrysene	218-01-9	0.059	3.4
		Dibenz(a,h)anthracene	53-70-3	0.055	8.2
		Fluorene	86-73-7	0.059	3.4
		Indeno(1,2,3-cd)pyrene	193-39-5	0.0055	3.4
		Naphthalene	91-20-3	0.059	5.6
		Phenanthrene	85-01-8	0.059	5.6
		Pyrene	129-00-0	0.067	8.2
		Arsenic	7440-38-2	1.4	5.0 mg/L TCLP
		Chromium (Total)	7440-47-3	2.77	0.60 mg/L TCLP
F035	Wastewaters (except those that have not come into contact with process contaminants), process residuals, preservative drippage, and spent formulations from wood preserving processes generated at plants that use inorganic preservatives containing arsenic or chromium. This listing does not include K001 bottom sediment sludge from the treatment of wastewater from wood preserving processes that use creosote and/or pentachlorophenol.	Arsenic	7440-38-2	1.4	5.0 mg/L TCLP
		Chromium (Total)	7440-47-3	2.77	0.60 mg/L TCLP
F037	Petroleum refinery primary oil/water/solids separation sludge - Any sludge generated from the gravitational separation of oil/water/solids during the storage or treatment of process wastewaters and oily cooling wastewaters from petroleum refineries. Such sludges include, but are not limited to, those generated in: oil/water/solids separators; tanks and impoundments; ditches and other conveyances; sumps; and stormwater units receiving dry weather flow. Sludge generated in stormwater units that do not receive dry weather flow, sludges generated from	Acenaphthene	83-32-9	0.059	NA
		Anthracene	120-12-7	0.059	3.4
		Benzene	71-43-2	0.14	10
		Benz(a)anthracene	56-55-3	0.059	3.4
		Benzo(a)pyrene	50-32-8	0.061	3.4
		bis(2-Ethylhexyl) phthalate	117-81-7	0.28	28
		Chrysene	218-01-9	0.059	3.4
		Di-n-butyl phthalate	84-74-2	0.057	28
		Ethylbenzene	100-41-4	0.057	10
		Fluorene	86-73-7	0.059	NA
		Naphthalene	91-20-3	0.059	5.6
		Phenanthrene	85-01-8	0.059	5.6
		Phenol	108-95-2	0.039	6.2
		Pyrene	129-00-0	0.067	8.2
		Toluene	108-88-3	0.08	10
		Xylenes-mixed isomers (sum of o-, m-, and p-xylene concentrations)	1330-20-7	0.32	30
		Chromium (Total)	7440-47-3	2.77	0.60 mg/L TCLP
		Cyanides (Total)	57-12-5	1.2	590
		Lead	7439-92-1	0.69	NA
		Nickel	7440-02-0	NA	11 mg/L TCLP

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	non-contact once-through cooling waters segregated for treatment from other process or oily cooling waters, sludges generated in aggressive biological treatment units as defined in s. 261.31(b)(2) <sup>9</sup> (including sludges generated in one or more additional units after wastewaters have been treated in aggressive biological treatment units) and K051 wastes are not included in this listing. This listing does include residuals generated from processing or recycling oil-bearing hazardous secondary materials excluded under s.261.4(a)(12)(i) <sup>9</sup> , if those residuals are to be disposed of.				
F038	Petroleum refinery secondary (emulsified) oil/water/solids separation sludge - Any sludge and/or float generated from the physical and/or chemical separation of oil/water/solids in process wastewaters and oily cooling wastewaters from petroleum refineries. Such wastes include, but are not limited to, all sludges and floats generated in: induced air flotation (IAF) units, tanks and impoundments, and all sludges generated in DAF units. Sludges generated in stormwater units that do not receive dry weather flow, sludges generated from non-contact once-through cooling waters segregated for treatment from other process or oily cooling waters, sludges and floats generated in aggressive biological treatment units as defined in s. 261.31(b)(2) <sup>9</sup> (including sludges and floats generated in one or more additional units after wastewaters have been treated in aggressive biological treatment units) and F037, K048, and K051 wastes are not included in this listing.	Benzene	71-43-2	0.14	10
		Benzo(a)pyrene	50-32-8	0.061	3.4
		bis(2-Ethylhexyl) phthalate	117-81-7	0.28	28
		Chrysene	218-01-9	0.059	3.4
		Di-n-butyl phthalate	84-74-2	0.057	28
		Ethylbenzene	100-41-4	0.057	10
		Fluorene	86-73-7	0.059	NA
		Naphthalene	91-20-3	0.059	5.6
		Phenanthrene	85-01-8	0.059	5.6
		Phenol	108-95-2	0.039	6.2
		Pyrene	129-00-0	0.067	8.2
		Toluene	108-88-3	0.08	10
		Xylenes-mixed isomers (sum of o-, m-, and p-xylene concentrations)	1330-20-7	0.32	30
		Chromium (Total)	7440-47-3	2.77	0.60 mg/L TCLP
		Cyanides (Total)	57-12-5	1.2	590
		Lead	7439-92-1	0.69	NA
		Nickel	7440-02-0	NA	11 mg/L TCLP
F039	Leachate (liquids that have percolated through land disposed wastes) resulting from the disposal of more	Acenaphthylene	208-96-8	0.059	3.4
		Acenaphthene	83-32-9	0.059	3.4
		Acetone	67-64-1	0.28	160
		Acetonitrile	75-05-8	5.6	NA

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<p>than one hazardous waste. (Leachate resulting from the disposal of one or more of the following Hazardous Wastes and no other Hazardous Wastes retains its Hazardous Waste Number(s): F020, F021, F022, F026, F027, and/or F028.)</p>	Acetophenone	96-86-2	0.01	9.7
	2-Acetylaminofluorene	53-96-3	0.059	140
	Acrolein	107-02-8	0.29	NA
	Acrylonitrile	107-13-1	0.24	84
	Aldrin	309-00-2	0.021	0.066
	4-Aminobiphenyl	92-67-1	0.13	NA
	Aniline	62-53-3	0.81	14
	Anthracene	120-12-7	0.059	3.4
	Aramite	140-57-8	0.36	NA
	alpha-BHC	319-84-6	0.00014	0.066
	beta-BHC	319-85-7	0.00014	0.066
	delta-BHC	319-86-8	0.023	0.066
	gamma-BHC	58-89-9	0.0017	0.066
	Benzene	71-43-2	0.14	10
	Benz(a)anthracene	56-55-3	0.059	3.4
	Benzo(b)fluoranthene (difficult to distinguish from benzo(k)fluoranthene)	205-99-2	0.11	6.8
	Benzo(k)fluoranthene (difficult to distinguish from benzo(b)fluoranthene)	207-08-9	0.11	6.8
	Benzo(g,h,i)perylene	191-24-2	0.0055	1.8
	Benzo(a)pyrene	50-32-8	0.061	3.4
	Bromodichloromethane	75-27-4	0.35	15
	Methyl bromide (Bromomethane)	74-83-9	0.11	15
	4-Bromophenyl phenyl ether	101-55-3	0.055	15
	n-Butyl alcohol	71-36-3	5.6	2.6
	Butyl benzyl phthalate	85-68-7	0.017	28
	2-sec-Butyl-4,6-dinitrophenol (Dinoseb)	88-85-7	0.066	2.5
	Carbon disulfide	75-15-0	3.8	NA
	Carbon tetrachloride	56-23-5	0.057	6.0
	Chlordane (alpha and gamma isomers)	57-74-9	0.0033	0.26
	p-Chloroaniline	106-47-8	0.46	16
	Chlorobenzene	108-90-7	0.057	6.0
	Chlorobenzilate	510-15-6	0.1	NA
	2-Chloro-1,3-butadiene	126-99-8	0.057	NA
	Chlorodibromomethane	124-48-1	0.057	15
	Chloroethane	75-00-3	0.27	6
	bis(2-Chloroethoxy)methane	111-91-1	0.036	7.2
	bis(2-Chloroethyl)ether	111-44-4	0.033	6.0
	Chloroform	67-66-3	0.046	6.0
	bis(2-Chloroisopropyl)ether	39638-32-9	0.055	7.2
	p-Chloro-m-cresol	59-50-7	0.018	14
	Chloromethane (Methyl chloride)	74-87-3	0.19	30
	2-Chloronaphthalene	91-58-7	0.055	5.6
	2-Chlorophenol	95-57-8	0.044	5.7
	3-Chloropropylene	107-05-1	0.036	30
	Chrysene	218-01-9	0.059	3.4
	o-Cresol	95-48-7	0.11	5.6
	m-Cresol (difficult to distinguish from p-cresol)	108-39-4	0.77	5.6
	p-Cresol (difficult to distinguish from m-cresol)	106-44-5	0.77	5.6
	Cyclohexanone	108-94-1	0.36	NA
	1,2-Dibromo-3-chloropropane	96-12-8	0.11	15
	Ethylene dibromide (1,2-Dibromoethane)	106-93-4	0.028	15
	Dibromomethane	74-95-3	0.11	15

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	2,4-D (2,4-Dichlorophenoxyacetic acid)	94-75-7	0.72	10
	o,p'-DDD	53-19-0	0.023	0.087
	p,p'-DDD	72-54-8	0.023	0.087
	o,p'-DDE	3424-82-6	0.031	0.087
	p,p'-DDE	72-55-9	0.031	0.087
	o,p'-DDT	789-02-6	0.0039	0.087
	p,p'-DDT	50-29-3	0.0039	0.087
	Dibenz(a,h)anthracene	53-70-3	0.055	8.2
	Dibenz(a,e)pyrene	192-65-4	0.061	NA
	m-Dichlorobenzene	541-73-1	0.036	6.0
	o-Dichlorobenzene	95-50-1	0.088	6.0
	p-Dichlorobenzene	106-46-7	0.09	6.0
	Dichlorodifluoromethane	75-71-8	0.23	7.2
	1,1-Dichloroethane	75-34-3	0.059	6.0
	1,2-Dichloroethane	107-06-2	0.21	6.0
	1,1-Dichloroethylene	75-35-4	0.025	6.0
	trans-1,2-Dichloroethylene	156-60-5	0.054	30
	2,4-Dichlorophenol	120-83-2	0.044	14
	2,6-Dichlorophenol	87-65-0	0.044	14
	1,2-Dichloropropane	78-87-5	0.85	18
	cis-1,3-Dichloropropylene	10061-01-5	0.036	18
	trans-1,3-Dichloropropylene	10061-02-6	0.036	18
	Dieldrin	60-57-1	0.017	0.13
	Diethyl phthalate	84-66-2	0.2	28
	2,4-Dimethyl phenol	105-67-9	0.036	14
	Dimethyl phthalate	131-11-3	0.047	28
	Di-n-butyl phthalate	84-74-2	0.057	28
	1,4-Dinitrobenzene	100-25-4	0.32	2.3
	4,6-Dinitro-o-cresol	534-52-1	0.28	160
	2,4-Dinitrophenol	51-28-5	0.12	160
	2,4-Dinitrotoluene	121-14-2	0.32	140
	2,6-Dinitrotoluene	606-20-2	0.55	28
	Di-n-octyl phthalate	117-84-0	0.017	28
	Di-n-propylnitrosamine	621-64-7	0.4	14
	1,4-Dioxane	123-91-1	12	170
	Diphenylamine (difficult to distinguish from diphenylnitrosamine)	122-39-4	0.92	NA
	Diphenylnitrosamine (difficult to distinguish from diphenylamine)	86-30-6	0.92	NA
	1,2-Diphenylhydrazine	122-66-7	0.087	NA
	Disulfoton	298-04-4	0.017	6.2
	Endosulfan I	939-98-8	0.023	0.066
	Endosulfan II	33213-6-5	0.029	0.13
	Endosulfan sulfate	1031-07-8	0.029	0.13
	Endrin	72-20-8	0.0028	0.13
	Endrin aldehyde	7421-93-4	0.025	0.13
	Ethyl acetate	141-78-6	0.34	33
	Ethyl cyanide (Propanenitrile)	107-12-0	0.24	360
	Ethyl benzene	100-41-4	0.057	10
	Ethyl ether	60-29-7	0.12	160
	bis(2-Ethylhexyl) phthalate	117-81-7	0.28	28
	Ethyl methacrylate	97-63-2	0.14	160
	Ethylene oxide	75-21-8	0.12	NA
	Famphur	52-85-7	0.017	15
	Fluoranthene	206-44-0	0.068	3.4
	Fluorene	86-73-7	0.059	3.4
	Heptachlor	76-44-8	0.0012	0.066
	Heptachlor epoxide	1024-57-3	0.016	0.066

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	1,2,3,4,6,7,8-Heptachlorodibenzo-p-dioxin, (1,2,3,4,6,7,8-HpCDD)	35822-46-9	0.000035	0.0025
	1,2,3,4,6,7,8-Heptachlorodibenzofuran, (1,2,3,4,6,7,8-HpCDF)	67562-39-4	0.000035	0.0025
	1,2,3,4,7,8,9-Heptachlorodibenzofuran, (1,2,3,4,7,8,9-HpCDF)	55673-89-7	0.000035	0.0025
	Hexachlorobenzene	118-74-1	0.055	10
	Hexachlorobutadiene	87-68-3	0.055	5.6
	Hexachlorocyclopentadiene	77-47-4	0.057	2.4
	HxCDDs (All Hexachlorodibenzo-p-dioxins)	NA	0.000063	0.001
	HxCDFs (All Hexachlorodibenzofurans)	NA	0.000063	0.001
	Hexachloroethane	67-72-1	0.055	30
	Hexachloropropylene	1888-71-7	0.035	30
	Indeno (1,2,3-cd) pyrene	193-39-5	0.0055	3.4
	Iodomethane	74-88-4	0.019	65
	Isobutyl alcohol	78-83-1	5.6	170
	Isodrin	465-73-6	0.021	0.066
	Isosafrole	120-58-1	0.081	2.6
	Kepone	143-50-8	0.0011	0.13
	Methacrylonitrile	126-98-7	0.24	84
	Methanol	67-56-1	5.6	NA
	Methapyrilene	91-80-5	0.081	1.5
	Methoxychlor	72-43-5	0.25	0.18
	3-Methylcholanthrene	56-49-5	0.0055	15
	4,4'-Methylene bis(2-chloroaniline)	101-14-4	0.5	30
	Methylene chloride	75-09-2	0.089	30
	Methyl ethyl ketone	78-93-3	0.28	36
	Methyl isobutyl ketone	108-10-1	0.14	33
	Methyl methacrylate	80-62-6	0.14	160
	Methyl methanesulfonate	66-27-3	0.018	NA
	Methyl parathion	298-00-0	0.014	4.6
	Naphthalene	91-20-3	0.059	5.6
	2-Naphthylamine	91-59-8	0.52	NA
	p-Nitroaniline	100-01-6	0.028	28
	Nitrobenzene	98-95-3	0.068	14
	5-Nitro-o-toluidine	99-55-8	0.32	28
	p-Nitrophenol	100-02-7	0.12	29
	N-Nitrosodiethylamine	55-18-5	0.4	28
	N-Nitrosodimethylamine	62-75-9	0.4	NA
	N-Nitroso-di-n-butylamine	924-16-3	0.4	17
	N-Nitrosomethylethylamine	10595-95-6	0.4	2.3
	N-Nitrosomorpholine	59-89-2	0.4	2.3
	N-Nitrosopiperidine	100-75-4	0.013	35
	N-Nitrosopyrrolidine	930-55-2	0.013	35
	1,2,3,4,6,7,8,9-Octachlorodibenzo-p-dioxin, (OCDD)	3268-87-9	0.000063	0.005
	1,2,3,4,6,7,8,9-Octachlorodibenzofuran, (OCDF)	39001-02-0	0.000063	0.005
	Parathion	56-38-2	0.014	4.6
	Total PCBs (sum of all PCB isomers, or all Aroclors)	1336-36-3	0.1	10
	Pentachlorobenzene	608-93-5	0.055	10
	PeCDDs (All Pentachlorodibenzo-p-dioxins)	NA	0.000063	0.001
	PeCDFs (All Pentachlorodibenzofurans)	NA	0.000035	0.001
	Pentachloronitrobenzene	82-68-8	0.055	4.8



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	Pentachlorophenol	87-86-5	0.089	7.4
	Phenacetin	62-44-2	0.081	16
	Phenanthrene	85-01-8	0.059	5.6
	Phenol	108-95-2	0.039	6.2
	Phorate	298-02-2	0.021	4.6
	Phthalic anhydride	85-44-9	0.055	NA
	Pronamide	23950-58-5	0.093	1.5
	Pyrene	129-00-0	0.067	8.2
	Pyridine	110-86-1	0.014	16
	Safrole	94-59-7	0.081	22
	Silvex (2,4,5-TP)	93-72-1	0.72	7.9
	2,4,5-T	93-76-5	0.72	7.9
	1,2,4,5-Tetrachlorobenzene	95-94-3	0.055	14
	TCDDs (All Tetrachlorodibenzo-p-dioxins)	NA	0.000063	0.001
	TCDFs (All Tetrachlorodibenzofurans)	NA	0.000063	0.001
	1,1,1,2-Tetrachloroethane	630-20-6	0.057	6.0
	1,1,2,2-Tetrachloroethane	79-34-6	0.057	6.0
	Tetrachloroethylene	127-18-4	0.056	6.0
	2,3,4,6-Tetrachlorophenol	58-90-2	0.03	7.4
	Toluene	108-88-3	0.08	10
	Toxaphene	8001-35-2	0.0095	2.6
	Bromoform (Tribromomethane)	75-25-2	0.63	15
	1,2,4-Trichlorobenzene	120-82-1	0.055	19
	1,1,1-Trichloroethane	71-55-6	0.054	6.0
	1,1,2-Trichloroethane	79-00-5	0.054	6.0
	Trichloroethylene	79-01-6	0.054	6.0
	Trichlorofluoromethane	75-69-4	0.02	30
	2,4,5-Trichlorophenol	95-95-4	0.18	7.4
	2,4,6-Trichlorophenol	88-06-2	0.035	7.4
	1,2,3-Trichloropropane	96-18-4	0.85	30
	1,1,2-Trichloro-1,2,2-trifluoroethane	76-13-1	0.057	30
	Tris(2,3-Dibromopropyl) phosphate	126-72-7	0.11	NA
	Vinyl chloride	75-01-4	0.27	6.0
	Xylenes-mixed isomers (sum of o-, m-, and p-xylene concentrations)	1330-20-7	0.32	30
	Antimony	7440-36-0	1.9	1.15 mg/L TCLP
	Arsenic	7440-38-2	1.4	5.0 mg/L TCLP
	Barium	7440-39-3	1.2	21 mg/L TCLP
	Beryllium	7440-41-7	0.82	NA
	Cadmium	7440-43-9	0.69	0.11 mg/L TCLP
	Chromium (Total)	7440-47-3	2.77	0.60 mg/L TCLP
	Cyanides (Total) <sup>7</sup>	57-12-5	1.2	590
	Cyanides (Amenable) <sup>7</sup>	57-12-5	0.86	NA
	Fluoride	16984-48-8	35	NA
	Lead	7439-92-1	0.69	0.75 mg/L TCLP
	Mercury	7439-97-6	0.15	0.25 mg/L TCLP
	Nickel	7440-02-0	3.98	11 mg/L TCLP
	Selenium	7782-49-2	0.82	5.7 mg/L TCLP
	Silver	7440-22-4	0.43	0.14 mg/L TCLP
	Sulfide	8496-25-8	14	NA
	Thallium	7440-28-0	1.4	NA
	Vanadium	7440-62-2	4.3	NA

## Schedule 1 – Hazardous Industrial Waste

Hazardous Industrial Waste from Specific Sources					
Hazardous Industrial Waste		Regulated Constituents (and Treatment Subcategories <sup>1</sup> )		Land Disposal Treatment Requirements	
				Aqueous Waste	Non-aqueous Waste
Column 1	Column 2	Column 3	Column 4	Column 5	Column 6
Haz. Waste Number <sup>2</sup>	Waste	Generic Name or other description	CAS Number <sup>3</sup>	Treatment Code <sup>4</sup> or Concentration <sup>5</sup> (mg/L)	Treatment Code <sup>4</sup> or Concentration <sup>6</sup> (mg/kg, unless otherwise indicated)
Wood preservation:					
K001	Bottom sediment sludge from the treatment of wastewaters from wood preserving processes that use creosote and/or pentachlorophenol.	Naphthalene	91-20-3	0.059	5.6
		Pentachlorophenol	87-86-5	0.089	7.4
		Phenanthrene	85-01-8	0.059	5.6
		Pyrene	129-00-0	0.067	8.2
		Toluene	108-88-3	0.08	10
		Xylenes-mixed isomers (sum of o-, m-, and p-xylene concentrations)	1330-20-7	0.32	30
		Lead	7439-92-1	0.69	0.75 mg/L TCLP
Inorganic Pigments:					
K002	Wastewater treatment sludge from the production of chrome yellow and orange pigments.	Chromium (Total)	7440-47-3	2.77	0.60 mg/L TCLP
		Lead	7439-92-1	0.69	0.75 mg/L TCLP
K003	Wastewater treatment sludge from the production of molybdate orange pigments.	Chromium (Total)	7440-47-3	2.77	0.60 mg/L TCLP
		Lead	7439-92-1	0.69	0.75 mg/L TCLP
K004	Wastewater treatment sludge from the production of zinc yellow pigments.	Chromium (Total)	7440-47-3	2.77	0.60 mg/L TCLP
		Lead	7439-92-1	0.69	0.75 mg/L TCLP
K005	Wastewater treatment sludge from the production of chrome green pigments.	Chromium (Total)	7440-47-3	2.77	0.60 mg/L TCLP
		Lead	7439-92-1	0.69	0.75 mg/L TCLP
		Cyanides (Total) <sup>7</sup>	57-12-5	1.2	590
K006	Wastewater treatment sludge from the production of chrome oxide green pigments (anhydrous and hydrated).	<b>Treatment Subcategory 1</b>			
		Wastewater treatment sludge from the production of chrome oxide green pigments (anhydrous):			
		Chromium (Total)	7440-47-3	2.77	0.60 mg/L TCLP
		Lead	7439-92-1	0.69	0.75 mg/L TCLP
		<b>Treatment Subcategory 2</b>			
		Wastewater treatment sludge from the production of chrome oxide green pigments (hydrated):			
		Chromium (Total)	7440-47-3	2.77	0.60 mg/L TCLP
K007	Wastewater treatment sludge from the production of iron blue pigments.	Lead	7439-92-1	0.69	NA
		Chromium (Total)	7440-47-3	2.77	0.60 mg/L TCLP
		Lead	7439-92-1	0.69	0.75 mg/L TCLP
		Cyanides (Total) <sup>7</sup>	57-12-5	1.2	590
K008	Oven residue from the production of chrome oxide green pigments.				
		Chromium (Total)	7440-47-3	2.77	0.60 mg/L TCLP
		Lead	7439-92-1	0.69	0.75 mg/L TCLP
Organic chemicals:					
K009	Distillation bottoms from the production of acetaldehyde from ethylene.	Chloroform	67-66-3	0.046	6.0
K010	Distillation side cuts from the production of acetaldehyde from ethylene.	Chloroform	67-66-3	0.046	6.0
K011	Bottom stream from the wastewater stripper in the production of acrylonitrile.	Acetonitrile	75-05-8	5.6	38
		Acrylonitrile	107-13-1	0.24	84
		Acrylamide	79-06-1	19	23
		Benzene	71-43-2	0.14	10
		Cyanides (Total) <sup>7</sup>	57-12-5	1.2	590

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K013	Bottom stream from the acetonitrile column in the production of acrylonitrile.	Acetonitrile	75-05-8	5.6	38
		Acrylonitrile	107-13-1	0.24	84
		Acrylamide	79-06-1	19	23
		Benzene	71-43-2	0.14	10
		Cyanides (Total) <sup>7</sup>	57-12-5	1.2	590
K014	Bottoms from the acetonitrile purification column in the production of acrylonitrile.	Acetonitrile	75-05-8	5.6	38
		Acrylonitrile	107-13-1	0.24	84
		Acrylamide	79-06-1	19	23
		Benzene	71-43-2	0.14	10
		Cyanides (Total) <sup>7</sup>	57-12-5	1.2	590
K015	Still bottoms from the distillation of benzyl chloride.	Anthracene	120-12-7	0.059	3.4
		Benzal chloride	98-87-3	0.055	6.0
		Benzo(b)fluoranthene (difficult to distinguish from benzo(k)fluoranthene)	205-99-2	0.11	6.8
		Benzo(k)fluoranthene (difficult to distinguish from benzo(b)fluoranthene)	207-08-9	0.11	6.8
		Phenanthrene	85-01-8	0.059	5.6
		Toluene	108-88-3	0.08	10
		Chromium (Total)	7440-47-3	2.77	0.60 mg/L TCLP
		Nickel	7440-02-0	3.98	11 mg/L TCLP
K016	Heavy ends or distillation residues from the production of carbon tetrachloride.	Hexachlorobenzene	118-74-1	0.055	10
		Hexachlorobutadiene	87-68-3	0.055	5.6
		Hexachlorocyclopentadiene	77-47-4	0.057	2.4
		Hexachloroethane	67-72-1	0.055	30
		Tetrachloroethylene	127-18-4	0.056	6.0
K017	Heavy ends (still bottoms) from the purification column in the production of epichlorohydrin.	bis(2-Chloroethyl)ether	111-44-4	0.033	6.0
		1,2-Dichloropropane	78-87-5	0.85	18
		1,2,3-Trichloropropane	96-18-4	0.85	30
K018	Heavy ends from the fractionation column in ethyl chloride production.	Chloroethane	75-00-3	0.27	6.0
		Chloromethane	74-87-3	0.19	NA
		1,1-Dichloroethane	75-34-3	0.059	6.0
		1,2-Dichloroethane	107-06-2	0.21	6.0
		Hexachlorobenzene	118-74-1	0.055	10
		Hexachlorobutadiene	87-68-3	0.055	5.6
		Hexachloroethane	67-72-1	0.055	30
		Pentachloroethane	76-01-7	NA	6.0
K019	Heavy ends from the distillation of ethylene dichloride in ethylene dichloride production.	1,1,1-Trichloroethane	71-55-6	0.054	6.0
		bis(2-Chloroethyl)ether	111-44-4	0.033	6.0
		Chlorobenzene	108-90-7	0.057	6.0
		Chloroform	67-66-3	0.046	6.0
		p-Dichlorobenzene	106-46-7	0.09	NA
		1,2-Dichloroethane	107-06-2	0.21	6.0
		Fluorene	86-73-7	0.059	NA
		Hexachloroethane	67-72-1	0.055	30
		Naphthalene	91-20-3	0.059	5.6
		Phenanthrene	85-01-8	0.059	5.6
		1,2,4,5-Tetrachlorobenzene	95-94-3	0.055	NA
		Tetrachloroethylene	127-18-4	0.056	6.0
		1,2,4-Trichlorobenzene	120-82-1	0.055	19
		1,1,1-Trichloroethane	71-55-6	0.054	6.0
K020	Heavy ends from the distillation of vinyl chloride in vinyl chloride monomer production.	1,2-Dichloroethane	107-06-2	0.21	6.0
		1,1,2,2-Tetrachloroethane	79-34-6	0.057	6.0
		Tetrachloroethylene	127-18-4	0.056	6.0
K021	Aqueous spent antimony catalyst waste from fluoromethanes production.	Carbon tetrachloride	56-23-5	0.057	6.0
		Chloroform	67-66-3	0.046	6.0
		Antimony	7440-36-0	1.9	1.15 mg/L TCLP
K022	Distillation bottom tars from	Toluene	108-88-3	0.08	10

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	the production of phenol/acetone from cumene.	Acetophenone	96-86-2	0.01	9.7
		Diphenylamine (difficult to distinguish from diphenylnitrosamine)	122-39-4	0.92	13
		Diphenylnitrosamine (difficult to distinguish from diphenylamine)	86-30-6	0.92	13
		Phenol	108-95-2	0.039	6.2
		Chromium (Total)	7440-47-3	2.77	0.60 mg/L TCLP
		Nickel	7440-02-0	3.98	11 mg/L TCLP
K023	Distillation light ends from the production of phthalic anhydride from naphthalene.	Phthalic anhydride (measured as Phthalic acid or Terephthalic acid)	100-21-0; 85-44-9	0.055	28
K024	Distillation bottoms from the production of phthalic anhydride from naphthalene.	Phthalic anhydride (measured as Phthalic acid or Terephthalic acid)	100-21-0; 85-44-9	0.055	28
K025	Distillation bottoms from the production of nitrobenzene by the nitration of benzene.	Distillation bottoms from the production of nitrobenzene by the nitration of benzene.	NA	LLEXF fb SSTRP fb CARBN; or CMBST	CMBST
K026	Stripping still tails from the production of methyl ethyl pyridines.	Stripping still tails from the production of methyl ethyl pyridines.	NA	CMBST	CMBST
K027	Centrifuge and distillation residues from toluene diisocyanate production.	Centrifuge and distillation residues from toluene diisocyanate production.	NA	CARBON; or CMBST	CMBST
K028	Spent catalyst from the hydrochlorinator reactor in the productions of 1,1,1-trichloroethane.	1,1-Dichloroethane	75-34-3	0.059	6.0
		trans-1,2-Dichloroethylene	156-60-5	0.054	30
		Hexachlorobutadiene	87-68-3	0.055	5.6
		Hexachloroethane	67-72-1	0.055	30
		Pentachloroethane	76-01-7	NA	6.0
		1,1,1,2-Tetrachloroethane	630-20-6	0.057	6.0
		1,1,2,2-Tetrachloroethane	79-34-6	0.057	6.0
		Tetrachloroethylene	127-18-4	0.056	6.0
		1,1,1-Trichloroethane	71-55-6	0.054	6.0
		1,1,2-Trichloroethane	79-00-5	0.054	6.0
		Cadmium	7440-43-9	0.69	NA
		Chromium (Total)	7440-47-3	2.77	0.60 mg/L TCLP
		Lead	7439-92-1	0.69	0.75 mg/L TCLP
		Nickel	7440-02-0	3.98	11 mg/L TCLP
K029	Waste from the product stream stripper in the production of 1,1,1-trichloroethane.	Chloroform	67-66-3	0.046	6.0
		1,2-Dichloroethane	107-06-2	0.21	6.0
		1,1-Dichloroethylene	75-35-4	0.025	6.0
		1,1,1-Trichloroethane	71-55-6	0.054	6.0
		Vinyl chloride	75-01-4	0.27	6.0
K030	Column bottoms or heavy ends from the combined production of trichloroethylene and perchloroethylene.	o-Dichlorobenzene	95-50-1	0.088	NA
		p-Dichlorobenzene	106-46-7	0.09	NA
		Hexachlorobutadiene	87-68-3	0.055	5.6
		Hexachloroethane	67-72-1	0.055	30
		Hexachloropropylene	1888-71-7	NA	30
		Pentachlorobenzene	608-93-5	NA	10
		Pentachloroethane	76-01-7	NA	6.0
		1,2,4,5-Tetrachlorobenzene	95-94-3	0.055	14
		Tetrachloroethylene	127-18-4	0.056	6
		1,2,4-Trichlorobenzene	120-82-1	0.055	19
K083	Distillation bottoms from aniline production.	Aniline	62-53-3	0.81	14
		Benzene	71-43-2	0.14	10
		Cyclohexanone	108-94-1	0.36	NA
		Diphenylamine (difficult to distinguish from diphenylnitrosamine)	122-39-4	0.92	13
		Diphenylnitrosamine (difficult to distinguish from diphenylamine)	86-30-6	0.92	13

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		Nitrobenzene	98-95-3	0.068	14
		Phenol	108-95-2	0.039	6.2
		Nickel	7440-02-0	3.98	11 mg/L TCLP
K085	Distillation or fractionation column bottoms from the production of chlorobenzenes.	Benzene	71-43-2	0.14	10
		Chlorobenzene	108-90-7	0.057	6.0
		m-Dichlorobenzene	541-73-1	0.036	6.0
		o-Dichlorobenzene	95-50-1	0.088	6.0
		p-Dichlorobenzene	106-46-7	0.09	6.0
		Hexachlorobenzene	118-74-1	0.055	10
		Total PCBs (sum of all PCB isomers, or all Aroclors)	1336-36-3	0.1	10
		Pentachlorobenzene	608-93-5	0.055	10
		1,2,4,5-Tetrachlorobenzene	95-94-3	0.055	14
		1,2,4-Trichlorobenzene	120-82-1	0.055	19
K093	Distillation light ends from the production of phthalic anhydride from orthoxylene.	Phthalic anhydride (measured as Phthalic acid or Terephthalic acid)	100-21-0; 85-44-9	0.055	28
K094	Distillation bottoms from the production of phthalic anhydride from orthoxylene.	Phthalic anhydride (measured as Phthalic acid or Terephthalic acid)	100-21-0; 85-44-9	0.055	28
K095	Distillation bottoms from the production of 1,1,1-trichloroethane.	Hexachloroethane	67-72-1	0.055	30
		Pentachloroethane	76-01-7	0.055	6.0
		1,1,1,2-Tetrachloroethane	630-20-6	0.057	6.0
		1,1,2,2-Tetrachloroethane	79-34-6	0.057	6.0
		Tetrachloroethylene	127-18-4	0.056	6.0
		1,1,2-Trichloroethane	79-00-5	0.054	6.0
		Trichloroethylene	79-01-1	0.054	6.0
K096	Heavy ends from the heavy ends column from the production of 1,1,1-trichloroethane.	m-Dichlorobenzene	541-73-1	0.036	6.0
		Pentachloroethane	76-01-1	0.055	6.0
		1,1,1,2-Tetrachloroethane	630-20-6	0.057	6.0
		1,1,2,2-Tetrachloroethane	79-34-6	0.057	6.0
		Tetrachloroethylene	127-18-4	0.056	6.0
		1,2,4-Trichlorobenzene	120-82-1	0.055	19
		1,1,2-Trichloroethane	79-00-5	0.054	6.0
K103	Process residues from aniline extraction from the production of aniline.	Trichloroethylene	79-01-6	0.054	6.0
		Aniline	62-53-3	0.81	14
		Benzene	71-43-2	0.14	10
		2,4-Dinitrophenol	51-28-5	0.12	160
		Nitrobenzene	98-95-3	0.068	14
K104	Combined wastewater streams generated from nitrobenzene/aniline production.	Phenol	108-95-2	0.039	6.2
		Aniline	62-53-3	0.81	14
		Benzene	71-43-2	0.14	10
		2,4-Dinitrophenol	51-28-5	0.12	160
		Nitrobenzene	98-95-3	0.068	14
		Phenol	108-95-2	0.039	6.2
K105	Separated aqueous stream from the reactor product washing step in the production of chlorobenzenes.	Cyanides (Total) <sup>7</sup>	57-12-5	1.2	590
		Benzene	71-43-2	0.14	10
		Chlorobenzene	108-90-7	0.057	6.0
		2-Chlorophenol	95-57-8	0.044	5.7
		o-Dichlorobenzene	95-50-1	0.088	6.0
		p-Dichlorobenzene	106-46-7	0.09	6.0
		Phenol	108-95-2	0.039	6.2
		2,4,5-Trichlorophenol	95-95-4	0.18	7.4
K107	Column bottoms from product separation from the production of 1,1-dimethyl-hydra-zine (UDMH) from carboxylic acid hydrazines.	Column bottoms from product separation from the production of 1,1-dimethyl-hydra-zine (UDMH) from carboxylic acid hydrazines.	NA	CMBST; or CHOXD fb CARBN; or BIODG fb CARBN	CMBST
K108	Condensed column overheads from product	Condensed column overheads from product separation and condensed	NA	CMBST; or CHOXD fb	CMBST

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	separation and condensed reactor vent gases from the production of 1,1-dimethylhydrazine (UDMH) from carboxylic acid hydrazides.	reactor vent gases from the production of 1,1-dimethylhydrazine (UDMH) from carboxylic acid hydrazides.		CARBN; or BIODG fb CARBN	
K109	Spent filter cartridges from product purification from the production of 1,1-dimethylhydrazine (UDMH) from carboxylic acid hydrazides.	Spent filter cartridges from product purification from the production of 1,1-dimethylhydrazine (UDMH) from carboxylic acid hydrazides.	NA	CMBST; or CHOXD fb CARBN; or BIODG fb CARBN	CMBST
K110	Condensed column overheads from intermediate separation from the production of 1,1-dimethylhydrazine (UDMH) from carboxylic acid hydrazides.	Condensed column overheads from intermediate separation from the production of 1,1-dimethylhydrazine (UDMH) from carboxylic acid hydrazides.	NA	CMBST; or CHOXD fb CARBN; or BIODG fb CARBN	CMBST
K111	Product washwaters from the production of dinitrotoluene via nitration of toluene.	2,4-Dinitrotoluene	121-1-2	0.32	140
		2,6-Dinitrotoluene	606-20-2	0.55	28
K112	Reaction by-product water from the drying column in the production of toluenediamine via hydrogenation of dinitrotoluene.	Reaction by-product water from the drying column in the production of toluenediamine via hydrogenation of dinitrotoluene.	NA	CMBST; or CHOXD fb CARBN; or BIODG fb CARBN	CMBST
K113	Condensed liquid light ends from the purification of toluenediamine in the production of toluenediamine via hydrogenation of dinitrotoluene.	Condensed liquid light ends from the purification of toluenediamine in the production of toluenediamine via hydrogenation of dinitrotoluene.	NA	CARBN; or CMBST	CMBST
K114	Vicinals from the purification of toluenediamine in the production of toluenediamine via hydrogenation of dinitrotoluene.	Vicinals from the purification of toluenediamine in the production of toluenediamine via hydrogenation of dinitrotoluene.	NA	CARBN; or CMBST	CMBST
K115	Heavy ends from the purification of toluenediamine in the production of toluenediamine via hydrogenation of dinitrotoluene.	Nickel	7440-02-0	3.98	11 mg/L TCLP
		Heavy ends from the purification of toluenediamine in the production of toluenediamine via hydrogenation of dinitrotoluene.	NA	CARBN; or CMBST	CMBST
K116	Organic condensate from the solvent recovery column in the production of toluene diisocyanate via phosgenation of toluenediamine.	Organic condensate from the solvent recovery column in the production of toluene diisocyanate via phosgenation of toluenediamine.	NA	CARBN; or CMBST	CMBST
K117	Wastewater from the reactor vent gas scrubber in the production of ethylene dibromide via bromination of ethene.	Methyl bromide (Bromomethane)	74-83-9	0.11	15
		Chloroform	67-66-3	0.046	6.0
		Ethylene dibromide (1,2-Dibromoethane)	106-93-4	0.028	15
K118	Spent adsorbent solids from purification of ethylene	Methyl bromide (Bromomethane)	74-83-9	0.11	15
		Chloroform	67-66-3	0.046	6.0

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	dibromide in the production of ethylene dibromide via bromination of ethene.	Ethylene dibromide (1,2-Dibromoethane)	106-93-4	0.028	15
K136	Still bottoms from the purification of ethylene dibromide in the production of ethylene dibromide via bromination of ethene.	Methyl bromide (Bromomethane)	74-83-9	0.11	15
		Chloroform	67-66-3	0.46	6.0
		Ethylene dibromide (1,2-Dibromoethane)	106-93-4	0.028	15
K149	Distillation bottoms from the production of alpha- (or methyl-) chlorinated toluenes, ring-chlorinated toluenes, benzoyl chlorides, and compounds with mixtures of these functional groups. (This waste does not include still bottoms from the distillation of benzyl chloride.)	Chlorobenzene	108-90-7	0.057	6.0
		Chloroform	67-66-3	0.046	6.0
		Chloromethane	74-87-3	0.19	30
		p-Dichlorobenzene	106-46-7	0.09	6.0
		Hexachlorobenzene	118-74-1	0.055	10
		Pentachlorobenzene	608-93-5	0.055	10
		1,2,4,5-Tetrachlorobenzene	95-94-3	0.055	14
		Toluene	108-88-3	0.08	10
K150	Organic residuals, excluding spent carbon adsorbent, from the spent chlorine gas and hydrochloric acid recovery processes associated with the production of alpha- (or methyl-) chlorinated toluenes, ring-chlorinated toluenes, benzoyl chlorides, and compounds with mixtures of these functional groups.	Carbon tetrachloride	56-23-5	0.057	6.0
		Chloroform	67-66-3	0.046	6.0
		Chloromethane	74-87-3	0.019	30
		p-Dichlorobenzene	106-46-7	0.09	6.0
		Hexachlorobenzene	118-74-1	0.055	10
		Pentachlorobenzene	608-93-5	0.055	10
		1,2,4,5-Tetrachlorobenzene	95-94-3	0.055	14
		1,1,2,2-Tetrachloroethane	79-34-5	0.057	6.0
		Tetrachloroethylene	127-18-4	0.056	6.0
		1,2,4-Trichlorobenzene	120-82-1	0.055	19
K151	Wastewater treatment sludges, excluding neutralization and biological sludges, generated during the treatment of wastewaters from the production of alpha- (or methyl-) chlorinated toluenes, ring-chlorinated toluenes, benzoyl chlorides, and compounds with mixtures of these functional groups.	Benzene	71-43-2	0.14	10
		Carbon tetrachloride	56-23-5	0.057	6.0
		Chloroform	67-66-3	0.046	6.0
		Hexachlorobenzene	118-74-1	0.055	10
		Pentachlorobenzene	608-93-5	0.055	10
		1,2,4,5-Tetrachlorobenzene	95-94-3	0.055	14
		Tetrachloroethylene	127-18-4	0.056	6.0
		Toluene	108-88-3	0.08	10
K156	Organic waste (including heavy ends, still bottoms, light ends, spent solvents, filtrates, and decantates) from the production of carbamates and carbamoyl oximes. (This listing does not apply to wastes generated from the manufacture of 3-iodo-2-propynyl n-butylcarbamate.)	Acetonitrile	75-05-8	5.6	1.8
		Acetophenone	96-86-2	0.01	9.7
		Aniline	62-53-3	0.81	14
		Benomyl	17804-35-2	0.056	1.4
		Benzene	71-43-2	0.14	10
		Carbaryl	63-25-2	0.006	0.14
		Carbendazim	10605-21-7	0.056	1.4
		Carbofuran	1563-66-2	0.006	0.14
		Carbosulfan	55285-14-8	0.028	1.4
		Chlorobenzene	108-90-7	0.057	6.0
		Chloroform	67-66-3	0.046	6.0
		o-Dichlorobenzene	95-50-1	0.088	6.0
		Methomyl	16752-77-5	0.028	0.14
		Methylene chloride	75-09-2	0.089	30
		Methyl ethyl ketone	78-93-3	0.28	36
		Naphthalene	91-20-3	0.059	5.6
		Phenol	108-95-2	0.039	6.2
		Pyridine	110-86-1	0.014	16
		Toluene	108-88-3	0.08	10

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K157	Wastewaters (including scrubber waters, condenser waters, washwaters, and separation waters) from the production of carbamates and carbamoyl oximes. (This listing does not apply to wastes generated from the manufacture of 3-iodo-2-propynyl n-butylcarbamate.)	Triethylamine	101-44-8	0.081	1.5
		Carbon tetrachloride	56-23-5	0.057	6.0
		Chloroform	67-66-3	0.046	6.0
		Chloromethane	74-87-3	0.19	30
		Methomyl	16752-77-5	0.028	0.14
		Methylene chloride	75-09-2	0.089	30
		Methyl ethyl ketone	78-93-3	0.28	36
		Pyridine	110-86-1	0.014	16
		Triethylamine	121-44-8	0.081	1.5
K158	Bag house dusts and filter/separation solids from the production of carbamates and carbamoyl oximes. (This listing does not apply to wastes generated from the manufacture of 3-iodo-2-propynyl n-butylcarbamate.)	Benomyl	17804-35-2	0.056	1.4
		Benzene	71-43-2	0.14	10
		Carbendazim	10605-21-7	0.056	1.4
		Carbofuran	1563-66-2	0.006	0.14
		Carbosulfan	55285-14-8	0.028	1.4
		Chloroform	67-66-3	0.046	6.0
		Methylene chloride	75-09-2	0.089	30
		Phenol	108-95-2	0.039	6.2
K159	Organics from the treatment of thiocarbamate wastes.	Benzene	71-43-2	0.14	10
		Butylate	2008-41-5	0.042	1.4
		EPTC (Eptam)	759-94-4	0.042	1.4
		Molinate	2212-67-1	0.042	1.4
		Pebulate	1114-71-2	0.042	1.4
		Vernolate	1929-77-7	0.042	1.4
K161	Purification solids (including filtration, evaporation, and centrifugation solids), bag house dust and floor sweepings from the production of dithiocarbamate acids and their salts. (This listing does not include K125 or K126.)	Antimony	7440-36-0	1.9	1.15 mg/L TCLP
		Arsenic	7440-38-2	1.4	5.0 mg/L TCLP
		Carbon disulfide	75-15-0	3.8	4.8 mg/L TCLP
		Dithiocarbamates (total)	NA	0.028	28
		Lead	7439-92-1	0.69	0.75 mg/L TCLP
		Nickel	7440-02-0	3.98	11.0 mg/L TCLP
		Selenium	7782-49-2	0.82	5.7 mg/L TCLP
K174	Wastewater treatment sludges from the production of ethylene dichloride or vinyl chloride monomer.	1,2,3,4,6,7,8-Heptachlorodibenzo-p-dioxin, (1,2,3,4,6,7,8-HpCDD)	35822-46-9	0.000035 or CMBST <sup>8</sup>	0.0025 or CMBST <sup>8</sup>
		1,2,3,4,6,7,8-Heptachlorodibenzofuran, (1,2,3,4,6,7,8-HpCDF)	67562-39-4	0.000035 or CMBST <sup>8</sup>	0.0025 or CMBST <sup>8</sup>
		1,2,3,4,7,8,9-Heptachlorodibenzofuran, (1,2,3,4,7,8,9-HpCDF)	55673-89-7	0.000035 or CMBST <sup>8</sup>	0.0025 or CMBST <sup>8</sup>
		HxCDDs (All Hexachlorodibenzo-p-dioxins)	34465-46-8	0.000063 or CMBST <sup>8</sup>	0.001 or CMBST <sup>8</sup>
		HxCDFs (All Hexachlorodibenzofurans)	55684-94-1	0.000063 or CMBST <sup>8</sup>	0.001 or CMBST <sup>8</sup>
		1,2,3,4,6,7,8,9-Octachlorodibenzo-p-dioxin, (OCDD)	3268-87-9	0.000063 or CMBST <sup>8</sup>	0.005 or CMBST <sup>8</sup>
		1,2,3,4,6,7,8,9-Octachlorodibenzofuran, (OCDF)	39001-02-0	0.000063 or CMBST <sup>8</sup>	0.005 or CMBST <sup>8</sup>
		PeCDDs (All Pentachlorodibenzo-p-dioxins)	36088-22-9	0.000063 or CMBST <sup>8</sup>	0.001 or CMBST <sup>8</sup>
		PeCDFs (All Pentachlorodibenzofurans)	30402-15-4	0.000035 or CMBST <sup>8</sup>	0.001 or CMBST <sup>8</sup>
		TCDDs (All tetrachlorodibenzo-p-dioxins)	41903-57-5	0.000063 or CMBST <sup>8</sup>	0.001 or CMBST <sup>8</sup>
		TCDFs (All tetrachlorodibenzofurans)	55722-27-5	0.000063 or CMBST <sup>8</sup>	0.001 or CMBST <sup>8</sup>
		Arsenic	7440-36-0	1.4	5.0 mg/L TCLP
K175	Wastewater treatment sludge from the production of vinyl	Mercury	7439-97-6	0.15	0.025 mg/L TCLP <sup>10</sup>



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	chloride monomer using mercuric chloride catalyst in an acetylene-based process.	pH		NA	pH ≤ 6.0 <sup>10</sup>
<b>Inorganic chemicals:</b>					
K071	Brine purification muds from the mercury cell process in chlorine production, where separately prepurified brine is not used.	<b>Treatment Subcategory 1</b>			
		Non-aqueous wastes that are residues from RMERC:			
		Mercury	7439-97-6	NA	0.20 mg/L TCLP
		<b>Treatment Subcategory 2</b>			
		Non-aqueous wastes that are not residues from RMERC:			
		Mercury	7439-97-6	NA	0.025 mg/L TCLP
		<b>Treatment Subcategory 3</b>			
K073	Chlorinated hydrocarbon waste from the purification step of the diaphragm cell process using graphite anodes in chlorine production.	All K071 aqueous wastes:			
		Mercury	7439-97-6	0.15	NA
		Carbon tetrachloride	56-23-5	0.057	6.0
		Chloroform	67-66-3	0.046	6.0
		Hexachloroethane	67-72-1	0.055	30
		Tetrachloroethylene	127-18-4	0.056	6.0
K106	Wastewater treatment sludge from the mercury cell process in chlorine production.	1,1,1-Trichloroethane	71-55-6	0.054	6.0
		<b>Treatment Subcategory 1</b>			
		Non-aqueous wastes that contain greater than or equal to 260 mg/kg total mercury:			
		Mercury	7439-97-6	NA	RMERC
		<b>Treatment Subcategory 2</b>			
		Non-aqueous wastes that contain less than 260 mg/kg total mercury that are residues from RMERC:			
		Mercury	7439-97-6	NA	0.20 mg/L TCLP
		<b>Treatment Subcategory 3</b>			
		Other K106 non-aqueous wastes that contain less than 260 mg/kg total mercury and are not residues from RMERC:			
		Mercury	7439-97-6	NA	0.025 mg/L TCLP
K176	Baghouse filters from the production of antimony oxide, including filters from the production of intermediates (e.g., antimony metal or crude antimony oxide).	<b>Treatment Subcategory 4</b>			
		All K106 aqueous wastes:			
		Mercury	7439-97-6	0.15	NA
		Antimony	7440-36-0	1.9	1.15 mg/L TCLP
		Arsenic	7440-38-2	1.4	5.0 mg/L TCLP
		Cadmium	7440-43-9	0.69	0.11 mg/L TCLP
		Lead	7439-92-1	0.69	0.75 mg/L TCLP
K177	Slag from the production of antimony oxide that is speculatively accumulated or disposed, including slag from the production of intermediates (e.g., antimony metal or crude antimony oxide).	Mercury	7439-97-6	0.15	0.025 mg/L TCLP
		Antimony	7440-36-0	1.9	1.15 mg/L TCLP
		Arsenic	7440-38-2	1.4	5.0 mg/L TCLP
		Lead	7439-92-1	0.69	0.75 mg/L TCLP
K178	Residues from manufacturing and manufacturing-site storage of ferric chloride from acids formed during the production of titanium dioxide using the chloride-ilmenite process.				
		1,2,3,4,6,7,8-Heptachlorodibenzo-p-dioxin, (1,2,3,4,6,7,8-HpCDD)	35822-46-9	0.000035 or CMBST <sup>8</sup>	0.0025 or CMBST <sup>8</sup>
		1,2,3,4,6,7,8-Heptachlorodibenzofuran, (1,2,3,4,6,7,8-HpCDF)	67562-39-4	0.000035 or CMBST <sup>8</sup>	0.0025 or CMBST <sup>8</sup>
		1,2,3,4,7,8,9-Heptachlorodibenzofuran, (1,2,3,4,7,8,9-HpCDF)	55673-89-7	0.000035 or CMBST <sup>8</sup>	0.0025 or CMBST <sup>8</sup>
		HxCDDs (All Hexachlorodibenzo-p-dioxins)	34465-46-8	0.000063 or CMBST <sup>8</sup>	0.001 or CMBST <sup>8</sup>
		HxCDFs (All Hexachlorodibenzofurans)	55684-94-1	0.000063 or CMBST <sup>8</sup>	0.001 or CMBST <sup>8</sup>

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		1,2,3,4,6,7,8,9-Octachlorodibenzo-p-dioxin, (OCDD)	3268-87-9	0.000063 or CMBST <sup>8</sup>	0.005 or CMBST <sup>8</sup>
		1,2,3,4,6,7,8,9-Octachlorodibenzofuran, (OCDF)	39001-02-0	0.000063 or CMBST <sup>8</sup>	0.005 or CMBST <sup>8</sup>
		PeCDDs (All Pentachlorodibenzo-p-dioxins)	36088-22-9	0.000063 or CMBST <sup>8</sup>	0.001 or CMBST <sup>8</sup>
		PeCDFs (All Pentachlorodibenzofurans)	30402-15-4	0.000035 or CMBST <sup>8</sup>	0.001 or CMBST <sup>8</sup>
		TCDDs (All tetrachlorodibenzo-p-dioxins)	41903-57-5	0.000063 or CMBST <sup>8</sup>	0.001 or CMBST <sup>8</sup>
		TCDFs (All tetrachlorodibenzofurans)	55722-27-5	0.000063 or CMBST <sup>8</sup>	0.001 or CMBST <sup>8</sup>
		Thallium	7440-28-0	1.4	0.20 mg/L TCLP
Pesticides:					
K031	Byproduct salts generated in the production of MSMA and cacodylic acid.	Arsenic	7440-38-2	14	5.0 mg/L TCLP
K032	Wastewater treatment sludge from the production of chlordane.	Hexachlorocyclopentadiene	77-47-4	0.057	2.4
		Chlordane (alpha and gamma isomers)	57-74-9	0.0033	0.26
		Heptachlor	76-44-8	0.0012	0.066
		Heptachlor epoxide	1024-57-3	0.016	0.066
K033	Wastewater and scrub water from the chlorination of cyclopentadiene in the production of chlordane.	Hexachlorocyclopentadiene	77-47-4	0.057	2.4
K034	Filter solids from the filtration of hexachlorocyclopentadiene in the production of chlordane.	Hexachlorocyclopentadiene	77-47-4	0.057	2.4
K035	Wastewater treatment sludges generated in the production of creosote.	Acenaphthene	83-32-9	NA	3.4
		Anthracene	120-12-7	NA	3.4
		Benz(a)anthracene	56-55-3	0.059	3.4
		Benzo(a)pyrene	50-32-8	0.061	3.4
		Chrysene	218-01-9	0.059	3.4
		o-Cresol	95-48-7	0.11	5.6
		m-Cresol (difficult to distinguish from p-cresol)	108-39-4	0.77	5.6
		p-Cresol (difficult to distinguish from m-cresol)	106-44-5	0.77	5.6
		Dibenz(a,h)anthracene	53-70-3	NA	8.2
		Fluoranthene	206-44-0	0.068	3.4
		Fluorene	86-73-7	NA	3.4
		Indeno(1,2,3-cd)pyrene	193-39-5	NA	3.4
		Naphthalene	91-20-3	0.059	5.6
		Phenanthrene	85-01-1	0.059	5.6
		Phenol	108-95-2	0.039	6.2
		Pyrene	129-00-0	0.067	8.2
K036	Still bottoms from toluene reclamation distillation in the production of disulphoton.	Disulfoton	298-04-4	0.017	6.2
K037	Wastewater treatment sludges from the production of disulphoton.	Disulfoton	298-04-4	0.017	6.2
		Toluene	108-88-3	0.08	10
K038	Wastewater from the washing and stripping of phorate production.	Phorate	298-02-2	0.021	4.6
K039	Filter cake from the filtration of diethyl phosphorodithioic acid in the production of phorate.	Filter cake from the filtration of diethyl phosphorodithioic acid in the production of phorate.	NA	CARBON; or CMBST	CMBST

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K040	Wastewater treatment sludge from the production of phorate.	Phorate	298-02-2	0.021	4.6
K041	Wastewater treatment sludge from the production of toxaphene.	Toxaphene	8001-35-2	0.0095	2.6
K042	Heavy ends or distillation residues from the distillation of tetrachlorobenzene in the production of 2,4,5T.	o-Dichlorobenzene	95-50-1	0.088	6.0
		p-Dichlorobenzene	106-46-7	0.09	6.0
		Pentachlorobenzene	608-93-5	0.055	10
		1,2,4,5-Tetrachlorobenzene	95-94-3	0.055	14
		1,2,4-Trichlorobenzene	120-82-1	0.055	19
K043	2,6-Dichlorophenol waste from the production of 2,4D.	2,4-Dichlorophenol	120-83-2	0.044	14
		2,6-Dichlorophenol	187-65-0	0.044	14
		2,4,5-Trichlorophenol	95-95-4	0.18	7.4
		2,4,6-Trichlorophenol	88-06-2	0.035	7.4
		2,3,4,6-Tetrachlorophenol	58-90-2	0.03	7.4
		Pentachlorophenol	87-86-5	0.089	7.4
		Tetrachloroethylene	127-18-4	0.056	6.0
		HxCDDs (All Hexachlorodibenzo-p-dioxins)	NA	0.000063	0.001
		HxCDFs (All Hexachlorodibenzofurans)	NA	0.000063	0.001
		PeCDDs (All Pentachlorodibenzo-p-dioxins)	NA	0.000063	0.001
		PeCDFs (All Pentachlorodibenzofurans)	NA	0.000035	0.001
		TCDDs (All Tetrachlorodibenzo-p-dioxins)	NA	0.000063	0.001
		TCDFs (All Tetrachlorodibenzofurans)	NA	0.000063	0.001
K097	Vacuum stripper discharge from the chlordane chlorinator in the production of chlordane.	Chlordane (alpha and gamma isomers)	57-74-9	0.0033	0.26
		Heptachlor	76-44-8	0.0012	0.066
		Heptachlor epoxide	1024-57-3	0.016	0.066
		Hexachlorocyclopentadiene	77-47-4	0.057	2.4
K098	Untreated process wastewater from the production of toxaphene.	Toxaphene	8001-35-2	0.0095	2.6
K099	Untreated wastewater from the production of 2,4-D.	2,4-Dichlorophenoxyacetic acid	94-75-7	0.72	10
		HxCDDs (All Hexachlorodibenzo-p-dioxins)	NA	0.000063	0.001
		HxCDFs (All Hexachlorodibenzofurans)	NA	0.000063	0.001
		PeCDDs (All Pentachlorodibenzo-p-dioxins)	NA	0.000063	0.001
		PeCDFs (All Pentachlorodibenzofurans)	NA	0.000035	0.001
		TCDDs (All Tetrachlorodibenzo-p-dioxins)	NA	0.000063	0.001
		TCDFs (All Tetrachlorodibenzofurans)	NA	0.000063	0.001
K123	Process wastewater (including supernates, filtrates, and washwaters) from the production of ethylenebisdithiocarbamic acid and its salt.	Process wastewater (including supernates, filtrates, and washwaters) from the production of ethylenebisdithiocarbamic acid and its salt.	NA	CMBST; or CHOXD fb (BIODG or CARBN)	CMBST
K124	Reactor vent scrubber water from the production of ethylenebisdithiocarbamic acid and its salts.	Reactor vent scrubber water from the production of ethylenebisdithiocarbamic acid and its salts.	NA	CMBST; or CHOXD fb (BIODG or CARBN)	CMBST
K125	Filtration, evaporation, and centrifugation solids from	Filtration, evaporation, and centrifugation solids from the	NA	CMBST; or CHOXD fb	CMBST

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	the production of ethylenedisithiocarbamic acid and its salts.	production of ethylenedisithiocarbamic acid and its salts.		(BIODG or CARBN)	
K126	Baghouse dust and floor sweepings in milling and packaging operations from the production or formulation of ethylenedisithiocarbamic acid and its salts.	Baghouse dust and floor sweepings in milling and packaging operations from the production or formulation of ethylenedisithiocarbamic acid and its salts.	NA	CMBST; or CHOXD fb (BIODG or CARBN)	CMBST
K131	Wastewater from the reactor and spent sulfuric acid from the acid dryer from the production of methyl bromide.	Methyl bromide (Bromomethane)	74-83-9	0.11	15
K132	Spent absorbent and wastewater separator solids from the production of methyl bromide.	Methyl bromide (Bromomethane)	74-83-9	0.11	15
Explosives:					
K044	Wastewater treatment sludges from the manufacturing and processing of explosives.	Wastewater treatment sludges from the manufacturing and processing of explosives.	NA	DEACT	DEACT
K045	Spent carbon from the treatment of wastewater containing explosives.	Spent carbon from the treatment of wastewater containing explosives.	NA	DEACT	DEACT
K046	Wastewater treatment sludges from the manufacturing formulation and loading of leadbased initiating compounds.	Lead	7439-92-1	0.69	0.75 mg/L TCLP
K047	Pink/red water from TNT operations.	Pink/red water from TNT operations.	NA	DEACT	DEACT
Petroleum refining:					
K048	Dissolved air flotation (DAF) float from the petroleum refining industry.	Benzene	71-43-2	0.14	10
		Benzo(a)pyrene	50-32-8	0.061	3.4
		bis(2-Ethylhexyl)phthalate	117-81-7	0.28	28
		Chrysene	218-01-9	0.059	3.4
		Di-n-butyl phthalate	84-74-2	0.057	28
		Ethylbenzene	100-41-4	0.057	10
		Fluorene	86-73-7	0.059	NA
		Naphthalene	91-20-3	0.059	5.6
		Phenanthrene	85-01-8	0.059	5.6
		Phenol	108-95-2	0.039	6.2
		Pyrene	129-00-0	0.067	8.2
		Toluene	108-88-33	0.08	10
		Xylenes-mixed isomers (sum of o-, m-, and p-xylene concentrations)	1330-20-7	0.32	30
		Chromium (Total)	7440-47-3	2.77	0.60 mg/L TCLP
		Cyanides (Total)	57-12-5	1.2	590
		Lead	7439-92-1	0.69	NA
		Nickel	7440-02-0	NA	11 mg/L TCLP
K049	Slop oil emulsion solids from the petroleum refining industry.	Anthracene	120-12-7	0.059	3.4
		Benzene	71-43-2	0.14	10
		Benzo(a)pyrene	50-32-8	0.061	3.4
		bis(2-Ethylhexyl)phthalate	117-81-7	0.28	28
		Carbon disulfide	75-15-0	3.8	NA
		Chrysene	2218/01/09	0.059	3.4
		2,4-Dimethylphenol	105-67-9	0.036	NA
		Ethylbenzene	100-41-4	0.057	10
		Naphthalene	91-20-3	0.059	5.6

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		Phenanthrene	85-01-8	0.059	5.6
		Phenol	108-95-2	0.039	6.2
		Pyrene	129-00-0	0.067	8.2
		Toluene	108-88-3	0.08	10
		Xylenes-mixed isomers (sum of o-, m-, and p-xylene concentrations)	1330-20-7	0.32	30
		Cyanides (Total) <sup>7</sup>	57-12-5	1.2	590
		Chromium (Total)	7440-47-3	2.77	0.60 mg/L TCLP
		Lead	7439-92-1	0.69	NA
		Nickel	7440-02-0	NA	11 mg/L TCLP
K050	Heat exchanger bundle cleaning sludge from the petroleum refining industry.	Benzo(a)pyrene	50-32-8	0.061	3.4
		Phenol	108-95-2	0.039	6.2
		Cyanides (Total) <sup>7</sup>	57-12-5	1.2	590
		Chromium (Total)	7440-47-3	2.77	0.60 mg/L TCLP
		Lead	7439-92-1	0.69	NA
		Nickel	7440-02-0	NA	11 mg/L TCLP
K051	API separator sludge from the petroleum refining industry.	Acenaphthene	83-32-9	0.059	NA
		Anthracene	120-12-7	0.059	3.4
		Benz(a)anthracene	56-55-3	0.059	3.4
		Benzene	71-43-2	0.14	10
		Benzo(a)pyrene	50-32-8	0.061	3.4
		bis(2-Ethylhexyl)phthalate	117-81-7	0.28	28
		Chrysene	2218/01/09	0.059	3.4
		Di-n-butyl phthalate	105-67-9	0.057	28
		Ethylbenzene	100-41-4	0.057	10
		Fluorene	86-73-7	0.059	NA
		Naphthalene	91-20-3	0.059	5.6
		Phenanthrene	85-01-8	0.059	5.6
		Phenol	108-95-2	0.039	6.2
		Pyrene	129-00-0	0.067	8.2
		Toluene	108-88-3	0.08	10
		Xylenes-mixed isomers (sum of o-, m-, and p-xylene concentrations)	1330-20-7	0.32	30
		Cyanides (Total) <sup>7</sup>	57-12-5	1.2	590
		Chromium (Total)	7440-47-3	2.77	0.60 mg/L TCLP
		Lead	7439-92-1	0.69	NA
		Nickel	7440-02-0	NA	11 mg/L TCLP
K052	Tank bottoms (leaded) from the petroleum refining industry.	Benzene	71-43-2	0.14	10
		Benzo(a)pyrene	50-32-8	0.061	3.4
		o-Cresol	95-48-7	0.11	5.6
		m-Cresol (difficult to distinguish from p-cresol)	108-39-4	0.77	5.6
		p-Cresol (difficult to distinguish from m-cresol)	106-44-5	0.77	5.6
		2,4-Dimethylphenol	105-67-9	0.036	NA
		Ethylbenzene	100-41-4	0.057	10
		Naphthalene	91-20-3	0.059	5.6
		Phenanthrene	85-01-8	0.059	5.6
		Phenol	108-95-2	0.039	6.2
		Toluene	108-88-3	0.08	10
		Xylenes-mixed isomers (sum of o-, m-, and p-xylene concentrations)	1330-20-7	0.32	30
		Chromium (Total)	7440-47-3	2.77	0.60 mg/L TCLP
		Cyanides (Total) <sup>7</sup>	57-12-5	1.2	590
		Lead	7439-92-1	0.69	NA
		Nickel	7440-02-0	NA	11 mg/L TCLP
K169	Crude oil storage tank sediment from petroleum refining operations.	Benz(a)anthracene	56-55-3	0.059	3.4
		Benzene	71-43-2	0.14	10
		Benzo(g,h,i)perylene	191-24-2	0.0055	1.8
		Chrysene	218-01-9	0.059	3.4
		Ethyl benzene	100-41-4	0.057	10

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		Fluorene	86-73-7	0.059	3.4
		Naphthalene	91-20-3	0.059	5.6
		Phenanthrene	81-05-8	0.059	5.6
		Pyrene	129-00-0	0.067	8.2
		Toluene (Methyl Benzene)	108-88-3	0.08	10
		Xylene(s) (Total)	1330-20-7	0.32	30
K170	Clarified slurry oil tank sediment and/or in-line filter/separation solids from petroleum refining operations.	Benz(a)anthracene	56-55-3	0.059	3.4
		Benzene	71-43-2	0.14	10
		Benzo(g,h,i)perylene	191-24-2	0.0055	1.8
		Chrysene	218-01-9	0.059	3.4
		Dibenz(a,h)anthracene	53-70-3	0.055	8.2
		Ethyl benzene	100-41-4	0.057	10
		Fluorene	86-73-7	0.059	3.4
		Indeno(1,2,3-cd)pyrene	193-39-5	0.0055	3.4
		Naphthalene	91-20-3	0.059	5.6
		Phenanthrene	81-05-8	0.059	5.6
		Pyrene	129-00-0	0.067	8.2
		Toluene (Methyl Benzene)	108-88-3	0.08	10
		Xylene(s) (Total)	1330-20-7	0.32	30
K171	Spent Hydrotreating catalyst from petroleum refining operations, including guard beds used to desulfurize feeds to other catalytic reactors (this listing does not include inert support media).	Benz(a)anthracene	56-55-3	0.059	3.4
		Benzene	71-43-2	0.14	10
		Chrysene	218-01-9	0.059	3.4
		Ethyl benzene	100-41-4	0.057	10
		Naphthalene	91-20-3	0.059	5.6
		Phenanthrene	81-05-8	0.059	5.6
		Pyrene	129-00-0	0.67	8.2
		Toluene (Methyl Benzene)	108-88-3	0.08	10
		Xylene(s) (Total)	1330-20-7	0.32	30
		Arsenic	7740-38-2	1.4	5 mg/L TCLP
		Nickel	7440-02-0	3.98	11.0 mg/L TCLP
		Vanadium	7440-62-2	4.3	1.6 mg/L TCLP
		Reactive sulfides	NA	DEACT	DEACT
K172	Spent Hydrotreating catalyst from petroleum refining operations, including guard beds used to desulfurize feeds to other catalytic reactors (this listing does not include inert support media).	Benzene	71-43-2	0.14	10
		Ethyl benzene	100-41-4	0.57	10
		Toluene (Methyl Benzene)	108-88-3	0.08	10
		Xylene(s) (Total)	1330-20-7	0.32	30
		Antimony	7740-36-0	1.9	1.15 mg/L TCLP
		Arsenic	7740-38-2	1.4	5 mg/L TCLP
		Nickel	7440-02-0	3.98	11.0 mg/L TCLP
		Vanadium	7440-62-2	4.3	1.6 mg/L TCLP
		Reactive sulfides	NA	DEACT	DEACT
Iron and steel:					
K061	Emission control dust/sludge from the primary production of steel in electric furnaces.	Antimony	7440-36-0	NA	1.15 mg/L TCLP
		Arsenic	7440-38-2	NA	5.0 mg/L TCLP
		Barium	7440-39-3	NA	21 mg/L TCLP
		Beryllium	7440-41-7	NA	1.22 mg/L TCLP
		Cadmium	7440-43-9	0.69	0.11 mg/L TCLP
		Chromium (Total)	7440-47-3	2.77	0.60 mg/L TCLP
		Lead	7439-92-1	0.69	0.75 mg/L TCLP
		Mercury	7439-97-6	NA	0.025 mg/L TCLP
		Nickel	7440-02-0	3.98	11 mg/L TCLP
		Selenium	7782-49-2	NA	5.7 mg/L TCLP
		Silver	7440-22-4	NA	0.14 mg/L TCLP
		Thallium	7440-28-0	NA	0.20 mg/L TCLP
		Zinc	7440-66-6	NA	4.3 mg/L TCLP
K062	Spent pickle liquor generated by steel finishing operations within the iron	Chromium (Total)	7440-47-3	2.77	0.60 mg/L TCLP
		Lead	7439-92-1	0.69	0.75 mg/L TCLP
		Nickel	7440-02-0	3.98	NA

## Schedule 1 – Hazardous Industrial Waste

	and steel industry at steel works, blast furnaces (including coke ovens), rolling mills, iron and steel foundries, gray and ductile iron foundries, malleable iron foundries, steel investment foundries or other miscellaneous steel foundries or at facilities in the electrometallurgical products (except steel) industry, steel wire drawing and steel nails and spikes industry, cold-rolled steel sheet, strip and bars industry, or steel pipe and tubes industry.				
Primary aluminum:					
K088	Spent potliners from primary aluminum reduction.	Acenaphthene	83-32-9	0.059	3.4
		Anthracene	120-12-7	0.059	3.4
		Benz(a)anthracene	56-55-3	0.059	3.4
		Benzo(a)pyrene	50-32-8	0.061	3.4
		Benzo(b)fluoranthene	205-99-2	0.11	6.8
		Benzo(k)fluoranthene	207-08-9	0.11	6.8
		Benzo(g,h,i)perylene	191-24-2	0.0055	1.8
		Chrysene	218-01-9	0.059	3.4
		Dibenz(a,h)anthracene	53-70-3	0.055	8.2
		Fluoranthene	206-44-0	0.068	3.4
		Indeno(1,2,3-cd)pyrene	193-39-5	0.0055	3.4
		Phenanthrene	85-01-8	0.059	5.6
		Pyrene	129-00-0	0.067	8.2
		Antimony	7440-36-0	1.9	1.15 mg/L TCLP
		Arsenic	7440-38-2	1.4	26.1
		Barium	7440-39-3	1.2	21 mg/L TCLP
		Beryllium	7440-41-7	0.82	1.22 mg/L TCLP
		Cadmium	7440-43-9	0.69	0.11 mg/L TCLP
		Chromium (Total)	7440-47-3	2.77	0.60 mg/L TCLP
		Lead	7439-92-1	0.69	0.75 mg/L TCLP
		Mercury	7439-97-6	0.15	0.025 mg/L TCLP
		Nickel	7440-02-0	3.98	11 mg/L TCLP
		Selenium	7782-49-2	0.82	5.7 mg/L TCLP
		Silver	7440-22-4	0.43	0.14 mg/L TCLP
		Cyanides (Total) <sup>7</sup>	57-12-5	1.2	590
		Cyanides (Amenable) <sup>7</sup>	57-12-5	0.86	30
		Fluoride	16984-48-8	35	NA
Secondary lead:					
K069	Emission control dust/sludge from secondary lead smelting, not including sludge generated from secondary acid scrubber systems.	<b>Treatment Subcategory 1</b>			
		Calcium Sulfate (Low Lead)			
		Cadmium	7440-43-9	0.69	0.11 mg/L TCLP
		Lead	7439-92-1	0.69	0.75 mg/L TCLP
		<b>Treatment Subcategory 2</b>			
		Non- Calcium Sulfate (High Lead)			
		Non- Calcium Sulfate (High Lead)	NA	NA	RLEAD
K100	Waste leaching solution from acid leaching of emission control dust/sludge from secondary lead smelting.	Cadmium	7440-43-9	0.69	0.11 mg/L TCLP
		Chromium (Total)	7440-47-3	2.77	0.60 mg/L TCLP
		Lead	7439-92-1	0.69	0.75 mg/L TCLP
Veterinary pharmaceuticals:					
K084	Wastewater treatment	Arsenic	7440-38-2	1.4	5.0 mg/L TCLP

## Schedule 1 – Hazardous Industrial Waste

	sludges generated during the production of veterinary pharmaceuticals from arsenic or organoarsenic compounds.				
K101	Distillation tar residues from the distillation of anilinebased compounds in the production of veterinary pharmaceuticals from arsenic or organoarsenic compounds.	o-Nitroaniline	88-74-4	0.27	14
		Arsenic	7440-38-2	1.4	5.0 mg/L TCLP
		Cadmium	7440-43-9	0.69	NA
		Lead	7439-92-1	0.69	NA
		Mercury	7439-97-6	0.15	NA
K102	Residue from the use of activated carbon for decolourization in the production of veterinary pharmaceuticals from arsenic or organoarsenic compounds.	o-Nitrophenol	88-75-5	0.028	13
		Arsenic	7440-38-2	1.4	5.0 mg/L TCLP
		Cadmium	7440-43-9	0.69	NA
		Lead	7439-92-1	0.69	NA
		Mercury	7439-97-6	0.15	NA
Ink formulation:					
K086	Solvent washes and sludges, caustic washes and sludges, or water washes and sludges from cleaning tubs and equipment used in the formulation of ink from pigments, driers, soaps, and stabilizers containing chromium and lead.	Acetone	67-64-1	0.28	160
		Acetophenone	96-86-2	0.01	9.7
		bis(2-Ethylhexyl) phthalate	117-81-7	0.28	28
		n-Butyl alcohol	71-36-3	5.6	2.6
		Butyl benzyl phthalate	85-68-7	0.017	28
		Cyclohexanone	108-94-1	0.36	NA
		o-Dichlorobenzene	95-50-1	0.088	6.0
		Diethyl phthalate	84-66-2	0.2	28
		Dimethyl phthalate	131-11-3	0.047	28
		Di-n-butyl phthalate	84-74-2	0.057	28
		Di-n-octyl phthalate	117-84-0	0.017	28
		Ethyl acetate	141-78-6	0.34	33
		Ethylbenzene	100-41-4	0.057	10
		Methanol	67-56-1	5.6	NA
		Methyl ethyl ketone	78-93-3	0.28	36
		Methyl isobutyl ketone	108-10-1	0.14	33
		Methylene chloride	75-09-2	0.089	30
		Naphthalene	91-20-3	0.059	5.6
		Nitrobenzene	98-95-3	0.068	14
		Toluene	108-88-3	0.08	10
		1,1,1-Trichloroethane	71-55-6	0.054	6.0
		Trichloroethylene	79-01-6	0.054	6.0
		Xylenes-mixed isomers (sum of o-, m-, and p-xylene concentrations)	1330-20-7	0.32	30
		Chromium (Total)	7440-47-3	2.77	0.60 mg/L TCLP
		Cyanides (Total) <sup>7</sup>	57-12-5	1.2	590
		Lead	7439-92-1	0.69	0.75 mg/L TCLP
Coking:					
K060	Ammonia still lime sludge from coking operations.	Benzene	71-43-2	0.14	10
		Benzo(a)pyrene	50-32-8	0.061	3.4
		Naphthalene	91-20-3	0.059	5.6
		Phenol	108-95-2	0.039	6.2
		Cyanides (Total) <sup>7</sup>	57-12-5	1.2	590
K087	Decanter tank tar sludge from coking operations.	Acenaphthylene	208-96-8	0.059	3.4
		Benzene	71-43-2	0.14	10
		Chrysene	218-01-9	0.059	3.4
		Fluoranthene	206-44-0	0.068	3.4
		Indeno(1,2,3-cd)pyrene	193-39-5	0.0055	3.4
		Naphthalene	91-20-3	0.059	5.6
		Phenanthrene	85-01-8	0.059	5.6
		Toluene	108-88-3	0.08	10



## Schedule 1 – Hazardous Industrial Waste

		Xylenes-mixed isomers (sum of o-, m-, and p-xylene concentrations)	1330-20-7	0.32	30
		Lead	7439-92-1	0.69	0.75 mg/L TCLP
K141	Process residues from the recovery of coal tar, including, but not limited to, collecting sump residues from the production of coke from coal or the recovery of coke by-products produced from coal. This listing does not include K087 (decanter tank tar sludges from coking operations).	Benzene	71-43-2	0.14	10
		Benz(a)anthracene	56-55-3	0.059	3.4
		Benzo(a)pyrene	50-2-8	0.061	3.4
		Benzo(b)fluoranthene (difficult to distinguish from benzo(k)fluoranthene)	205-99-2	0.11	6.8
		Benzo(k)fluoranthene (difficult to distinguish from benzo(b)fluoranthene)	207-08-9	0.11	6.8
		Chrysene	218-01-9	0.059	3.4
		Dibenz(a,h)anthracene	53-70-3	0.055	8.2
		Indeno(1,2,3-cd)pyrene	193-39-5	0.0055	3.4
K142	Tar storage tank residues from the production of coke from coal or from the recovery of coke by-products produced from coal.	Benzene	71-43-2	0.14	10
		Benz(a)anthracene	56-55-3	0.059	3.4
		Benzo(a)pyrene	50-32-8	0.061	3.4
		Benzo(b)fluoranthene (difficult to distinguish from benzo(k)fluoranthene)	205-99-2	0.11	6.8
		Benzo(k)fluoranthene (difficult to distinguish from benzo(b)fluoranthene)	207-08-9	0.11	6.8
		Chrysene	218-01-9	0.059	3.4
		Dibenz(a,h)anthracene	53-70-3	0.055	8.2
		Indeno(1,2,3-cd)pyrene	193-39-5	0.0055	3.4
K143	Process residues from the recovery of light oil, including, but not limited to, those generated in stills, decanters, and wash oil recovery units from the recovery of coke by-products produced from coal.	Benzene	71-43-2	0.14	10
		Benz(a)anthracene	56-55-3	0.059	3.4
		Benzo(a)pyrene	50-32-8	0.061	3.4
		Benzo(b)fluoranthene (difficult to distinguish from benzo(k)fluoranthene)	205-99-2	0.11	6.8
		Benzo(k)fluoranthene (difficult to distinguish from benzo(b)fluoranthene)	207-08-9	0.11	6.8
		Chrysene	218-01-9	0.059	3.4
		Dibenz(a,h)anthracene	53-70-3	0.055	8.2
K144	Wastewater sump residues from light oil refining, including, but not limited to, intercepting or contamination sump sludges from the recovery of coke by-products produced from coal.	Benzene	71-43-2	0.14	10
		Benzo(a)pyrene	56-55-3	0.059	3.4
		Benzo(a)anthracene	50-32-8	0.061	3.4
		Benzo(b)fluoranthene (difficult to distinguish from benzo(k)fluoranthene)	205-99-2	0.11	6.8
		Benzo(k)fluoranthene (difficult to distinguish from benzo(b)fluoranthene)	207-08-9	0.11	6.8
		Chrysene	218-01-9	0.059	3.4
		Dibenz(a,h)anthracene	53-70-3	0.055	8.2
		Naphthalene	91-20-3	0.059	5.6
K145	Residues from naphthalene collection and recovery operations from the recovery of coke by-products produced from coal.	Benzene	71-43-2	0.14	10
		Benz(a)anthracene	56-55-3	0.059	3.4
		Benzo(a)pyrene	50-32-8	0.061	3.4
		Chrysene	218-01-9	0.059	3.4
		Dibenz(a,h)anthracene	53-70-3	0.055	8.2
K147	Tar storage tank residues from coal tar refining.	Benzene	71-43-2	0.14	10
		Benz(a)anthracene	56-55-3	0.059	3.4
		Benzo(a)pyrene	50-32-8	0.061	3.4
		Benzo(b)fluoranthene (difficult to distinguish from benzo(k)fluoranthene)	205-99-2	0.11	6.8

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K148	Residues from coal tar distillation, including but not limited to, still bottoms.	Benzo(k)fluoranthene (difficult to distinguish from benzo(b)fluoranthene)	207-08-9	0.11	6.8
		Chrysene	218-01-9	0.059	3.4
		Dibenz(a,h)anthracene	53-70-3	0.055	8.2
		Indeno(1,2,3-cd)pyrene	193-39-5	0.0055	3.4
		Benzo(a)anthracene	56-55-3	0.059	3.4
		Benzo(a)pyrene	50-32-8	0.061	3.4
		Benzo(b)fluoranthene (difficult to distinguish from benzo(k)fluoranthene)	205-99-2	0.11	6.8
		Benzo(k)fluoranthene (difficult to distinguish from benzo(b)fluoranthene)	207-08-9	0.11	6.8
		Chrysene	218-01-9	0.059	3.4
		Dibenz(a,h)anthracene	53-70-3	0.055	8.2
		Indeno(1,2,3-cd)pyrene	193-39-5	0.0055	3.4

### Notes to Schedule 1:

<sup>1</sup> Treatment subcategories are shown for some wastes. In these cases, it is necessary to identify the treatment subcategory that most closely describes the particular waste for which treatment is required. The land disposal treatment requirements for that waste are those shown for that treatment subcategory.

<sup>2</sup> Haz. Waste Number means Hazardous Waste Number. These numbers are consistent with United States Environmental Protection Agency Hazardous Waste Numbers. If there is no United States Environmental Protection Agency Hazardous Waste Number for a waste, the Hazardous Waste Number is assigned to the waste by the Ontario Ministry of the Environment.

<sup>3</sup> CAS Number means the Chemical Abstracts Service Registry Number. When the waste or a regulated constituent is described as a combination of a chemical with its salts or esters, the CAS number is given for the parent compound only.

<sup>4</sup> See Schedule 7 for a description of the treatment methods and treatment standards associated with each treatment code. In some cases, the entries in this Schedule may set out more than one treatment code for a regulated constituent. An entry may permit a choice of treatment methods. For example, the entry “CHOXD; BIODG; or CMBST” means that the waste may be treated using any of the treatment methods that are set out for those treatment codes in Schedule 7. An entry may require treatment methods to be applied in a particular sequence. For this purpose, the abbreviation “fb” means “followed by”. For example, the entry “CHOXD fb CARBN” means that the waste must first be treated using the treatment method that is set out for CHOXD in Schedule 7 and, following that treatment, it must be treated using the treatment method that is set out for CARBN in Schedule 7. An entry may combine a choice of treatment methods and a requirement to apply treatment methods in a particular sequence (for example, “(WETOX or CHOXD) fb CARBN; or CMBST”).

<sup>5</sup> Concentration requirements for aqueous wastes are based on analysis of composite samples.

<sup>6</sup> Concentration requirements for non-aqueous wastes are based on analysis of grab samples.

<sup>7</sup> Both Cyanides (Total) and Cyanides (Amenable) for non-aqueous wastes are to be analyzed using Method 9010 or 9012, found in “Test Methods for Evaluating Solid Waste, Physical/ Chemical Methods”, United States Environmental Protection Agency Publication SW-846, with a sample size of 10 grams and a distillation time of one hour and 15 minutes.

<sup>8</sup> For these wastes, the treatment method described by the CMBST treatment code must be carried out at a facility that is authorized through a Certificate of Approval to treat these types of waste.

<sup>9</sup> Resource Conservation and Recovery Act (RCRA), United States Congress, 42 U.S.C. s/s 6901 et seq. (1976), Subtitle C, Code of Federal Regulations, 40CFR, Chapter I - Environmental Protection Agency, Subchapter I - Solid Wastes, Part 261 - Identification and Listing of Hazardous Waste.

<sup>10</sup> K175 non-aqueous wastes that have been treated in compliance with Schedule 1 land disposal treatment requirements must also be macroencapsulated in accordance with Schedule 8 (Alternative Treatment for Hazardous Debris), unless the waste is placed in:

- (1) A hazardous waste monofill containing only K175 wastes that meet all applicable Schedule 1 treatment standards; or
- (2) A dedicated hazardous waste landfill cell in which all other wastes being co-disposed are at pH ≤ 6.0.

## **Schedule 1.1 – Exempt Hazardous Industrial Waste**

### **[Appendix A](#)**

## **Schedule 1.1 – Exempt Hazardous Industrial Waste**

## Schedule 1.1 – Exempt Hazardous Industrial Waste

Industry and Site	Waste
ICI Canada Inc., Cornwall	Brine purification muds (K071), saturator and clarifier sludges only, without mixing with other wastes or materials) generated from mercury cells at the chloralkali chlorine plant.
Iron and steel industry, any site	Sludge generated by lime stabilization of spent pickle liquor (K062) generated by steel finishing operations within the iron and steel industry at steel works, blast furnaces (including coke ovens), rolling mills, iron and steel foundries, gray and ductile iron foundries, malleable iron foundries, steel investment foundries or other miscellaneous steel foundries or at facilities in the electrometallurgical products (except steel) industry, steel wire drawing and steel nails and spikes industry, cold-rolled steel sheet, strip and bars industry, or steel pipe and tubes industry.
Iron and steel industry, any site	Nonwastewater residues, such as slag, resulting from high temperature metals recovery (HTMR) processing of K061 or K062 waste, in units identified as rotary kilns, flame reactors, electric furnaces, plasma arc furnaces, slag reactors, rotary hearth furnace/electric furnace combinations or industrial furnaces.
Electroplating industry, any site	Nonwastewater residues, such as slag, resulting from high temperature metals recovery (HTMR) processing of F006 waste, in units identified as rotary kilns, flame reactors, electric furnaces, plasma arc furnaces, slag reactors, rotary hearth furnace/electric furnace combinations or industrial furnaces.
Organic chemical industry, any site	Biological treatment sludge from the treatment of organic waste (K156) and wastewaters (K157) from the production of carbamates and carbamoyl oximes.
Petroleum refining industry, any site	Catalyst inert support media separated from spent hydrotreating catalyst (K171) or spent hydrorefining catalyst (K172).

## **Part A of Schedule 2 – Acute Hazardous Waste Chemical**

### **[Appendix A](#)**

## **Part A of Schedule 2 – Acute Hazardous Waste Chemical**

## Part A of Schedule 2 – Acute Hazardous Waste Chemical

Acute Hazardous Waste Chemical			Regulated Constituents (and Treatment Subcategories <sup>1</sup> )		Land Disposal Treatment Requirements	
Column 1	Column 2	Column 3	Column 4	Column 5	Aqueous Waste Column 6	Non-aqueous Waste Column 7
Haz. Waste Number <sup>2</sup>	CAS Number <sup>3</sup>	Generic Name	Generic Name or other description	CAS Number <sup>3</sup>	Treatment Code <sup>4</sup> or Concentration <sup>5</sup> (mg/L)	Treatment Code <sup>4</sup> or Concentration <sup>6</sup> (mg/kg, unless otherwise indicated)
P026	5344-82-1	1-(o-Chlorophenyl)thiourea	1-(o-Chlorophenyl)thiourea	5344-82-1	(WETOX or CHOXD) fb CARBN; or CMBST	CMBST
P081	55-63-0	1,2,3-Propanetriol, trinitrate	Nitroglycerin	55-63-0	CHOXD; CHRED; CARBN; BIODG; or CMBST	CHOXD; CHRED; or CMBST
P042	51-43-4	1,2-Benzenediol,4-[1- hydroxy-2- (methylamino)ethyl]-	Epinephrine	51-43-4	(WETOX or CHOXD) fb CARBN; or CMBST	CMBST
P067	75-55-8	1,2-Propylenimine	2-Methyl-aziridine	75-55-8	(WETOX or CHOXD) fb CARBN; or CMBST	CMBST
P185	26419-73-8	1,3-Dithiolane-2- carboxaldehyde, 2,4- dimethyl-, O- [(methylamino)- carbonyl]oxime	Tirpate	26419-73-8	BIODG; CARBN; CHOXD; CMBST or 0.056	CMBST or 0.28
P004	309-00-2	1,4,5,8- Dimethanonaphthalene ,1,2,3,4,10,10-hexa- chloro-1,4,4a,5,8,8a,- hexahydro-, (1alpha,4alpha, 4abeta, 5alpha,8alpha,8abeta)	Aldrin	309-00-2	0.021	0.066
P060	465-73-6	1,4,5,8- Dimethanonaphthalene ,1,2,3,4,10,10-hexa- chloro-1,4,4a,5,8,8a- hexahydro-, (1alpha,4alpha, 4abeta, 5beta, 8beta, 8abeta)-	Isodrin	465-73-6	0.021	0.066
P002	591-08-2	1-Acetyl-2-thiourea	1-Acetyl-2-thiourea	591-08-2	(WETOX or CHOXD) fb CARBN; or CMBST	CMBST
P048	51-28-5	2,4-Dinitrophenol	2,4-Dinitrophenol	51-28-5	0.12	160
P051	72-20-8	2,7:3,6- Dimethanonaphth [2,3- b]oxirene, 3,4,5,6,9,9- hexachloro- 1a,2,2a,3,6,6a,7,7a- octahydro- ,(1aalpha,2beta,2abeta, 3alpha,6alpha,6 abeta,7beta, 7aalpha)-, & metabolites	Endrin Endrin aldehyde	72-20-8 7421-93-4	0.0028 0.025	0.13 0.13
P037	60-57-1	2,7:3,6- Dimethanonaphth[2,3- b]oxirene,3,4,5,6,9,9- hexachloro- 1a,2,2a,3,6,6a,7,7a- octahydro- ,(1aalpha,2beta,2aalpha ,3beta,6beta,6a alpha,7beta, 7aalpha)- [b]oxirene, 3,4,5,6,9,9- hexachloro-	Dieldrin	60-57-1	0.017	0.13

## Part A of Schedule 2 – Acute Hazardous Waste Chemical

P045	39196-18-4	2-Butanone,3,3-dimethyl-1-methylthio)-,O-[methylamino)carbonyl] oxime	Thiofanox	39196-18-4	(WETOX or CHOXD) fb CARBN; or CMBST	CMBST
P034	131-89-5	2-Cyclohexyl-4,6-dinitrophenol	2-Cyclohexyl-4,6-dinitrophenol	131-89-5	(WETOX or CHOXD) fb CARBN; or CMBST	CMBST
P001	81-81-2	2H-1-Benzopyran-2-one, 4-hydroxy-3-(3-oxo-1-phenylbutyl)-, & salts, when present at concentrations greater than 0.3%	Warfarin	81-81-2	(WETOX or CHOXD) fb CARBN; or CMBST	CMBST
P069	75-86-5	2-Methylactonitrile	2-Methylactonitrile	75-86-5	(WETOX or CHOXD) fb CARBN; or CMBST	CMBST
P017	598-31-2	2-Propanone, 1-bromo-	Bromoacetone	598-31-2	(WETOX or CHOXD) fb CARBN; or CMBST	CMBST
P005	107-18-6	2-Propen-1-ol	Allyl alcohol	107-18-6	(WETOX or CHOXD) fb CARBN; or CMBST	CMBST
P003	107-02-8	2-Propenal	Acrolein	107-02-8	0.29	CMBST
P102	107-19-7	2-Propyn-1-ol	Propargyl alcohol	107-19-7	(WETOX or CHOXD) fb CARBN; or CMBST	CMBST
P007	2763-96-4	3(2H)-Isoxazolone, 5-(aminomethyl)-	5-Aminomethyl 3-isoxazolol	2763-96-4	(WETOX or CHOXD) fb CARBN; or CMBST	CMBST
P027	542-76-7	3-Chloropropionitrile	3-Chloropropionitrile	542-76-7	(WETOX or CHOXD) fb CARBN; or CMBST	CMBST
P202	64-00-6	3-Isopropylphenyl N-methylcarbamate	m-Cumenyl methylcarbamate	64-00-6	0.056	1.4
P047	534-52-1	4,6-Dinitro-o-cresol, & salts	<b>Treatment Subcategory 1</b>			
			4,6-Dinitro-o-cresol:			
			4,6-Dinitro-o-cresol	543-52-1	0.28	160
			<b>Treatment Subcategory 2</b>			
			4,6-Dinitro-o-cresol salts:			
			4,6-Dinitro-o-cresol salts	NA	(WETOX or CHOXD) fb CARBN; or CMBST	CMBST
P059	76-44-8	4,7-Methano-1H-indene, 1,4,5,6,7,8,8-heptachloro-3a,4,7,7a-tetrahydro-	Heptachlor	76-44-8	0.0012	0.066
			Heptachlor epoxide	1024-57-3	0.016	0.066
P008	504-24-5	4-Aminopyridine	4-Aminopyridine	504-24-5	(WETOX or CHOXD) fb CARBN; or CMBST	CMBST
P008	504-24-5	4-Pyridinamine	4-Aminopyridine	504-24-5	(WETOX or CHOXD) fb CARBN; or CMBST	CMBST
P007	2763-96-4	5-(Aminomethyl)-3-isoxazolol	5-Aminomethyl 3-isoxazolol	2763-96-4	(WETOX or CHOXD) fb CARBN; or CMBST	CMBST

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P050	115-29-7	6,9-Methano-2,4,3-benzodioxathiepin, 6,7,8,9, 10,10-hexachloro-1,5,5a,6,9,9a-hexahydro-, 3-oxide	Endosulfan I	939-98-8	0.023	0.066
			Endosulfan II	33213-6-5	0.029	0.13
			Endosulfan sulfate	1031-07-8	0.029	0.13
P127	1563-66-2	7-Benzofuranol, 2,3-dihydro-2,2-dimethyl-, methylcarbamate	Carbofuran	1563-66-2	0.006	0.14
P088	145-73-3	7-Oxabicyclo[2.2.1]heptane-2,3-dicarboxylic acid	Endothall	145-73-3	(WETOX or CHOXD) fb CARBN; or CMBST	CMBST
P023	107-20-0	Acetaldehyde, chloro-	Chloroacetaldehyde	107-20-0	(WETOX or CHOXD) fb CARBN; or CMBST	CMBST
P057	640-19-7	Acetamide, 2-fluoro-	Fluoroacetamide	640-19-7	(WETOX or CHOXD) fb CARBN; or CMBST	CMBST
P002	591-08-2	Acetamide, N-(aminothioxomethyl)-	1-Acetyl-2-thiourea	591-08-2	(WETOX or CHOXD) fb CARBN; or CMBST	CMBST
P058	62-74-8	Acetic acid, fluoro-, sodium salt	Fluoroacetic acid, sodium salt	62-74-8	(WETOX or CHOXD) fb CARBN; or CMBST	CMBST
P003	107-02-8	Acrolein	Acrolein	107-02-8	0.29	CMBST
P070	116-06-3	Aldicarb	Aldicarb	116-06-3	(WETOX or CHOXD) fb CARBN; or CMBST	CMBST
P203	1646-88-4	Aldicarb sulfone	Aldicarb sulfone	1646-88-4	0.056	0.28
P004	309-00-2	Aldrin	Aldrin	309-00-2	0.021	0.066
P005	107-18-6	Allyl alcohol	Allyl alcohol	107-18-6	(WETOX or CHOXD) fb CARBN; or CMBST	CMBST
P046	122-09-8	alpha,alpha-Dimethylphenethylamine	alpha, alpha-Dimethylphenethylamine	122-09-8	(WETOX or CHOXD) fb CARBN; or CMBST	CMBST
P072	86-88-4	alpha-Naphthylthiourea	1-Naphthyl-2-thiourea	86-88-4	(WETOX or CHOXD) fb CARBN; or CMBST	CMBST
P006	20859-73-8	Aluminum phosphide	Aluminum phosphide	20859-73-8	CHOXD; CHRED; or CMBST	CHOXD; CHRED; or CMBST
P009	131-74-8	Ammonium picrate	Ammonium picrate	131-74-8	CHOXD; CHRED; CARBN; BIODG; or CMBST	CHOXD; CHRED; or CMBST
P119	7803-55-6	Ammonium vanadate	Vanadium (measured in aqueous wastes only)	7440-62-2	4.3	STABL
P099	506-61-6	Argentate(1-), bis(cyano-C)-, potassium	Cyanides (Total) <sup>f</sup>	57-12-5	1.2	590
			Cyanides (Amenable) <sup>f</sup>	57-12-5	0.86	30
			Silver	7440-22-4	0.43	0.14 mg/L TCLP
P010	7778-39-4	Arsenic acid H <sub>3</sub> AsO <sub>4</sub>	Arsenic	7440-38-2	1.4	5.0 mg/L TCLP
P012	1327-53-3	Arsenic oxide As <sub>2</sub> O <sub>3</sub>	Arsenic	7440-38-2	1.4	5.0 mg/L TCLP
P011	1303-28-2	Arsenic oxide As <sub>2</sub> O <sub>5</sub>	Arsenic	7440-38-2	1.4	5.0 mg/L TCLP
P011	1303-28-2	Arsenic pentoxide	Arsenic	7440-38-2	1.4	5.0 mg/L TCLP
P012	1327-53-3	Arsenic trioxide	Arsenic	7440-38-2	1.4	5.0 mg/L TCLP
P038	692-42-2	Arsine, diethyl-	Arsenic	7440-38-2	1.4	5.0 mg/L TCLP
P036	696-28-6	Arsonous dichloride, phenyl-	Arsenic	7440-38-2	1.4	5.0 mg/L TCLP



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P054	151-56-4	Aziridine	Aziridine	151-56-4	(WETOX or CHOXD) fb CARBN; or CMBST	CMBST
P067	75-55-8	Aziridine, 2-methyl-	2-Methyl-aziridine	75-55-8	(WETOX or CHOXD) fb CARBN; or CMBST	CMBST
P013	542-62-1	Barium cyanide	Barium	7440-39-3	NA	21 mg/L TCLP
			Cyanides (Total) <sup>7</sup>	57-12-5	1.2	590
			Cyanides (Amenable) <sup>7</sup>	57-12-5	0.86	30
P024	106-47-8	Benzenamine, 4-chloro-	p-Chloroaniline	106-47-8	0.46	16
P077	100-01-6	Benzenamine, 4-nitro-	p-Nitroaniline	100-01-6	0.028	28
P028	100-44-7	Benzene, (chloromethyl)-	Benzyl chloride	100-44-7	(WETOX or CHOXD) fb CARBN; or CMBST	CMBST
P046	122-09-8	Benzenethanamine, alpha,alpha-dimethyl-	alpha, alpha-Dimethylphenethylamine	122-09-8	(WETOX or CHOXD) fb CARBN; or CMBST	CMBST
P014	108-98-5	Benzenethiol	Thiophenol (Benzene thiol)	108-98-5	(WETOX or CHOXD) fb CARBN; or CMBST	CMBST
P188	57-64-7	Benzoic acid, 2-hydroxy-, compd. With (3aS-cis)-1,2,3,3a,8,8a-hexahydro-1,3a,8-trimethylpyrrolo[2,3-b]indol-5-yl methylcarbamate ester (1:1)	Physostigmine salicylate	57-64-7	0.056	1.4
P028	100-44-7	Benzyl chloride	Benzyl chloride	100-44-7	(WETOX or CHOXD) fb CARBN; or CMBST	CMBST
P015	7440-41-7	Beryllium powder	Beryllium	7440-41-7	RMETL; or RTHRM	RMETL; or RTHRM
P017	598-31-2	Bromoacetone	Bromoacetone	598-31-2	(WETOX or CHOXD) fb CARBN; or CMBST	CMBST
P018	357-57-3	Brucine	Brucine	357-57-3	(WETOX or CHOXD) fb CARBN; or CMBST	CMBST
P021	592-01-8	Calcium cyanide	Cyanides (Total) <sup>7</sup>	57-12-5	1.2	590
			Cyanides (Amenable) <sup>7</sup>	57-12-5	0.86	30
P021	592-01-8	Calcium cyanide Ca(CN) <sub>2</sub>	Cyanides (Total) <sup>7</sup>	57-12-5	1.2	590
			Cyanides (Amenable) <sup>7</sup>	57-12-5	0.86	30
P189	55285-14-8	Carbamic acid, [(dibutylamino)-thio]methyl-, 2,3-dihydro-2,2-dimethyl-7-benzofuranyl ester	Carbosulfan	55285-14-8	0.028	1.4
P191	644-64-4	Carbamic acid, dimethyl-, 1-[(dimethyl-amino)carbonyl]- 5-methyl-1H-pyrazol-3-yl ester	Dimetilan	644-64-4	BIODG; CARBN; CHOXD; CMBST or 0.056	CMBST or 1.4
P190	1129-41-5	Carbamic acid, methyl-, 3-methylphenyl ester	Metolcarb	1129-41-5	0.056	1.4

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P192	119-38-0	Carbamic acid, dimethyl-, 3-methyl-1-(1-methylethyl)-1H-pyrazol-5-yl ester	Isolan	119-38-0	BIODG; CARBN; CHOXD; CMBST or 0.056	CMBST or 1.4
P127	1563-66-2	Carbofuran	Carbofuran	1563-66-2	0.006	0.14
P022	75-15-0	Carbon disulfide	Carbon disulfide	75-15-0	3.8	CMBST or 4.8 mg/L TCLP
P095	75-44-5	Carbonic dichloride	Phosgene	75-44-5	(WETOX or CHOXD) fb CARBN; or CMBST	CMBST
P189	55285-14-8	Carbosulfan	Carbosulfan	55285-14-8	0.028	1.4
P023	107-20-0	Chloroacetaldehyde	Chloroacetaldehyde	107-20-0	(WETOX or CHOXD) fb CARBN; or CMBST	CMBST
P029	544-92-3	Copper cyanide	Cyanides (Total) <sup>7</sup>	57-12-5	1.2	590
			Cyanides (Amenable) <sup>7</sup>	57-12-5	0.86	30
P029	544-92-3	Copper cyanide Cu(CN)	Cyanides (Total) <sup>7</sup>	57-12-5	1.2	590
			Cyanides (Amenable) <sup>7</sup>	57-12-5	0.86	30
P030	N/A	Cyanides (soluble cyanide salts), not otherwise specified	Cyanides (Total) <sup>7</sup>	57-12-5	1.2	590
			Cyanides (Amenable) <sup>7</sup>	57-12-5	0.86	30
P031	460-19-5	Cyanogen	Cyanogen	460-19-5	CHOXD; WETOX; or CMBST	CHOXD; WETOX; or CMBST
P033	506-77-4	Cyanogen chloride	Cyanogen chloride	506-77-4	CHOXD; WETOX; or CMBST	CHOXD; WETOX; or CMBST
P033	506-77-4	Cyanogen chloride (CN)Cl	Cyanogen chloride	506-77-4	CHOXD; WETOX; or CMBST	CHOXD; WETOX; or CMBST
P016	542-88-1	Dichloromethyl ether	Dichloromethyl ether	542-88-1	(WETOX or CHOXD) fb CARBN; or CMBST	CMBST
P036	696-28-6	Dichlorophenylarsine	Arsenic	7440-38-2	1.4	5.0 mg/L TCLP
P037	60-57-1	Dieldrin	Dieldrin	60-57-1	0.017	0.13
P038	692-42-2	Diethylarsine	Arsenic	7440-38-2	1.4	5.0 mg/L TCLP
P041	311-45-5	Diethyl-p-nitrophenyl phosphate	Diethyl-p-nitrophenyl phosphate	311-45-5	CARBAN; or CMBST	CMBST
P043	55-91-4	Diisopropylfluorophosphate (DFP)	Diisopropylfluorophosphate (DFP)	55-91-4	CARBAN; or CMBST	CMBST
P044	60-51-5	Dimethoate	Dimethoate	60-51-5	CARBAN; or CMBST	CMBST
P191	644-64-4	Dimetilan	Dimetilan	644-64-4	BIODG; CARBN; CHOXD; CMBST or 0.056	CMBST or 1.4
P020	88-85-7	Dinoseb	2-sec-Butyl-4,6-dinitrophenol (Dinoseb)	88-85-7	0.066	2.5
P085	152-16-9	Diphosphoramidate, octamethyl-	Octamethylpyrophosphoramidate	152-16-9	CARBAN; or CMBST	CMBST
P111	107-49-3	Diphosphoric acid, tetraethyl ester	Tetraethylpyrophosphate	107-49-3	CARBAN; or CMBST	CMBST
P039	298-04-4	Disulfoton	Disulfoton	298-04-4	0.017	6.2
P049	541-53-7	Dithiobiuret	Dithiobiuret	541-53-7	(WETOX or CHOXD) fb CARBN; or CMBST	CMBST
P050	115-29-7	Endosulfan	Endosulfan I	939-98-8	0.023	0.066
			Endosulfan II	33213-6-5	0.029	0.13
			Endosulfan sulfate	1031-07-8	0.029	0.13
P088	145-73-3	Endothall	Endothall	145-73-3	(WETOX or CHOXD) fb CARBN; or CMBST	CMBST
P051	72-20-8	Endrin	Endrin	72-20-8	0.0028	0.13

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			Endrin aldehyde	7421-93-4	0.025	0.13
P051	72-20-8	Endrin, & metabolites	Endrin	72-20-8	0.0028	0.13
			Endrin aldehyde	7421-93-4	0.025	0.13
P042	51-43-4	Epinephrine	Epinephrine	51-43-4	(WETOX or CHOXD) fb CARBN; or CMBST	CMBST
P031	460-19-5	Ethanedinitrile	Cyanogen	460-19-5	CHOXD; WETOX; or CMBST	CHOXD: WETOX; or CMBST
P194	23135-22-0	Ethanimidothioc acid, 2-(dimethylamino)-N-[[[(methylamino)carbon yl]oxy]-2-oxo-, methyl ester	Oxamyl	23135-22-0	0.056	0.28
P066	16752-77-5	Ethanimidothioic acid, N-[[[(methylamino)carbon yl]oxy]-,methyl ester	Methomyl	16752-77-5	(WETOX or CHOXD) fb CARBN; or CMBST	CMBST
P101	107-12-0	Ethyl cyanide	Ethyl cyanide (Propanenitrile)	107-12-0	0.24	360
P054	151-56-4	Ethyleneimine	Aziridine	151-56-4	(WETOX or CHOXD) fb CARBN; or CMBST	CMBST
P097	52-85-7	Famphur	Famphur	52-85-7	0.017	15
P056	7782-41-4	Fluorine	Fluoride (measured in aqueous wastes only)	16984-48-8	35	ADGAS fb NEUTR
P057	640-19-7	Fluoroacetamide	Fluoroacetamide	640-19-7	(WETOX or CHOXD) fb CARBN; or CMBST	CMBST
P058	62-74-8	Fluoroacetic acid, sodium salt	Fluoroacetic acid, sodium salt	62-74-8	(WETOX or CHOXD) fb CARBN; or CMBST	CMBST
P198	23422-53-9	Formetanate hydrochloride	Formetanate hydrochloride	23422-53-9	0.056	1.4
P197	17702-57-7	Formparanate	Formparante	17702-57-7	BIODG; CARBN; CHOXD; CMBST or 0.056	CMBST or 1.4
P065	628-86-4	Fulminic acid, mercury(2+) salt	<b>Treatment Subcategory 1</b>			
			Mercury fulminate non-aqueous wastes, regardless of their total mercury content, that are not incinerator residues or are not residues from RMERC:			
			Mercury	7439-97-6	NA	IMERC
			<b>Treatment Subcategory 2</b>			
			Mercury fulminate non-aqueous wastes that are either incinerator residues or are residues from RMERC; and contain greater than or equal to 260 mg/kg total mercury:			
			Mercury	7439-97-6	NA	RMERC
			<b>Treatment Subcategory 3</b>			
			Mercury fulminate non-aqueous wastes that are residues from RMERC and contain less than 260 mg/kg total mercury:			
			Mercury	7439-97-6	NA	0.20 mg/L TCLP
			<b>Treatment Subcategory 4</b>			
			Mercury fulminate non-aqueous wastes that are incinerator residues and contain less than 260 mg/kg total mercury:			
			Mercury	7439-97-6	NA	0.025 mg/L TCLP
			<b>Treatment Subcategory 5</b>			
			All mercury fulminate aqueous wastes:			
			Mercury	7439-97-6	0.15	NA
P059	76-44-8	Heptachlor	Heptachlor	76-44-8	0.0012	0.066
			Heptachlor epoxide	1024-57-3	0.016	0.066
P062	757-58-4	Hexaethyl tetraphosphate	Hexaethyl tetraphosphate	757-58-4	CARBAN; or CMBST	CMBST
P068	60-34-4	Hydrazine, methyl-	Methyl hydrazine	60-34-4	CHOXD; CHRED; CARBN; BIODG; or CMBST	CHOXD; CHRED; or CMBST

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P116	79-19-6	Hydrazinecarbothioamide	Thiosemicarbazide	79-19-6	(WETOX or CHOXD) fb CARBN; or CMBST	CMBST
P063	74-90-8	Hydrocyanic acid	Cyanides (Total) <sup>7</sup>	57-12-5	1.2	590
			Cyanides (Amenable) <sup>7</sup>	57-12-5	0.86	30
P063	74-90-8	Hydrogen cyanide	Cyanides (Total) <sup>7</sup>	57-12-5	1.2	590
			Cyanides (Amenable) <sup>7</sup>	57-12-5	0.86	30
P096	7803-51-2	Hydrogen phosphide	Phosphine	7803-51-2	CHOXD; CHRED; or CMBST	CHOXD; CHRED; or CMBST
P060	465-73-6	Isodrin	Isodrin	465-73-6	0.021	0.066
P192	119-38-0	Isolan	Isolan	119-38-0	BIODG; CARBN; CHOXD; CMBST or 0.056	CMBST or 1.4
P196	15339-36-3	Manganese dimethyl dithiocarbamate	Dithiocarbamates (total)	NA	BIODG; CARBN; CHOXD; CMBST or 0.028	CMBST or 28
P196	15339-36-3	Manganese,bis(dimethyl carbamodithioato-S,S')-	Dithiocarbamates (total)	NA	BIODG; CARBN; CHOXD; CMBST or 0.028	CMBST or 28
P202	64-00-6	M-Cumenyl methylcarbamate	m-Cumenyl methylcarbamate	64-00-6	0.056	1.4
P065	628-86-4	Mercury fulminate	See Fulminic acid, mercury(2+) salt			
P092	62-38-4	Mercury, (acetato-O)phenyl-	<b>Treatment Subcategory 1</b> Phenyl mercuric acetate non-aqueous wastes, regardless of their total mercury content, that are not incinerator residues or are not residues from RMERC:			
			Mercury	7439-97-6	NA	IMERC; or RMERC
			<b>Treatment Subcategory 2</b> Phenyl mercuric acetate non-aqueous wastes that are either incinerator residues or are residues from RMERC; and still contain greater than or equal to 260 mg/kg total mercury:			
			Mercury	7439-97-6	NA	RMERC
			<b>Treatment Subcategory 3</b> Phenyl mercuric acetate non-aqueous wastes that are residues from RMERC and contain less than 260 mg/kg total mercury:			
			Mercury	7439-97-6	NA	0.20 mg/L TCLP
			<b>Treatment Subcategory 4</b> Phenyl mercuric acetate non-aqueous wastes that are incinerator residues and contain less than 260 mg/kg total mercury:			
			Mercury	7439-97-6	NA	0.025 mg/L TCLP
			<b>Treatment Subcategory 5</b> All phenyl mercuric acetate aqueous wastes:			
			Mercury	7439-97-6	0.15	NA
P082	62-75-9	Methanamine, N-methyl-N-nitroso-	N-Nitrosodimethylamine	62-75-9	0.4	2.3
P064	624-83-9	Methane, isocyanato-	Isocyanic acid, ethyl ester	624-83-9	(WETOX or CHOXD) fb CARBN; or CMBST	CMBST
P016	542-88-1	Methane, oxybis[chloro-	Dichloromethyl ether	542-88-1	(WETOX or CHOXD) fb CARBN; or CMBST	CMBST
P112	509-14-8	Methane, tetranitro-	Tetranitromethane	509-14-8	CHOXD; CHRED; CARBN; BIODG; or CMBST	CHOXD; CHRED; or CMBST
P118	75-70-7	Methanethiol, trichloro-	Trichloromethanethiol	75-70-7	(WETOX or CHOXD) fb CARBN; or CMBST	CMBST
P197	17702-57-7	Methanimidamide,N,N-dimethyl-N'-[2-methyl-4-[[[(methylamino)carbon yl]oxy]phenyl]-	Formparante	17702-57-7	BIODG; CARBN; CHOXD; CMBST or 0.056	CMBST or 1.4

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P198	23422-53-9	Methanimidamide,N,N-dimethyl-N'-[3-[[[(methylamino)-carbonyl]oxy]phenyl]-, monohydrochloride	Formetanate hydrochloride	23422-53-9	0.056	1.4
P199	2032-65-7	Methiocarb	Methiocarb	2032-65-7	0.056	1.4
P066	16752-77-5	Methomyl	Methomyl	16752-77-5	(WETOX or CHOXD) fb CARBN; or CMBST	CMBST
P068	60-34-4	Methyl hydrazine	Methyl hydrazine	60-34-4	CHOXD; CHRED; CARBN; BIODG; or CMBST	CHOXD; CHRED; or CMBST
P064	624-83-9	Methyl isocyanate	Isocyanic acid, ethyl ester	624-83-9	(WETOX or CHOXD) fb CARBN; or CMBST	CMBST
P071	298-00-0	Methyl parathion	Methyl parathion	298-00-0	0.014	4.6
P190	1129-41-5	Metolcarb	Metolcarb	1129-41-5	0.056	1.4
P128	315-18-4	Mexacarbate	Mexacarbate	315-18-4	0.056	1.4
P073	13463-39-3	Nickel carbonyl	Nickel	7440-02-0	3.98	11 mg/L TCLP
P073	13463-39-3	Nickel carbonyl Ni(CO) <sub>4</sub> (T-4)-	Nickel	7440-02-0	3.98	11 mg/L TCLP
P074	557-19-7	Nickel cyanide	Cyanides (Total) <sup>7</sup>	57-12-5	1.2	590
			Cyanides (Amenable) <sup>7</sup>	57-12-5	0.86	30
			Nickel	7440-02-0	3.98	11 mg/L TCLP
P074	557-19-7	Nickel cyanide Ni(CN) <sub>2</sub>	Cyanides (Total) <sup>7</sup>	57-12-5	1.2	590
			Cyanides (Amenable) <sup>7</sup>	57-12-5	0.86	30
			Nickel	7440-02-0	3.98	11 mg/L TCLP
P075	54-11-5	Nicotine, & salts	Nicotine and salts	54-11-5	(WETOX or CHOXD) fb CARBN; or CMBST	CMBST
P076	10102-43-9	Nitric oxide	Nitric oxide	10102-43-9	ADGAS	ADGAS
P078	10102-44-0	Nitrogen dioxide	Nitrogen dioxide	10102-44-0	ADGAS	ADGAS
P076	10102-43-9	Nitrogen oxide NO	Nitric oxide	10102-43-9	ADGAS	ADGAS
P078	10102-44-0	Nitrogen oxide NO <sub>2</sub>	Nitrogen dioxide	10102-44-0	ADGAS	ADGAS
P081	55-63-0	Nitroglycerine	Nitroglycerin	55-63-0	CHOXD; CHRED; CARBN; BIODG; or CMBST	CHOXD; CHRED; or CMBST
P082	62-75-9	N-Nitrosodimethylamine	N-Nitrosodimethylamine	62-75-9	0.4	2.3
P084	4549-40-0	N-Nitrosomethylvinylamine	N-Nitrosomethylvinylamine	4549-40-0	(WETOX or CHOXD) fb CARBN; or CMBST	CMBST
P040	297-97-2	O,O-Diethyl O-pyrazinyl phosphorothioate	O,O-Diethyl O-pyrazinyl phosphorothioate	297-97-2	CARBN; or CMBST	CMBST
P085	152-16-9	Octamethylpyrophosphoramidate	Octamethylpyrophosphoramidate	152-16-9	CARBN; or CMBST	CMBST
P087	20816-12-0	Osmium oxide OsO <sub>4</sub> (T-4)-	Osmium tetroxide	20816-12-0	RMETL; or RTHRM	RMETL; or RTHRM
P087	20816-12-0	Osmium tetroxide	Osmium tetroxide	20816-12-0	RMETL; or RTHRM	RMETL; or RTHRM
P194	23135-22-0	Oxamyl	Oxamyl	23135-22-0	0.056	0.28
P089	56-38-2	Parathion	Parathion	56-38-2	0.014	4.6
P024	106-47-8	p-Chloroaniline	p-Chloroaniline	106-47-8	0.46	16
P020	88-85-7	Phenol, 2-(1-methylpropyl)-4,6-dinitro-	2-sec-Butyl-4,6-dinitrophenol (Dinoseb)	88-85-7	0.066	2.5
P009	131-74-8	Phenol, 2,4,6-trinitro-, ammonium salt	Ammonium picrate	131-74-8	CHOXD; CHRED; CARBN; BIODG; or CMBST	CHOXD; CHRED; or CMBST
P048	51-28-5	Phenol, 2,4-dinitro-	2,4-Dinitrophenol	51-28-5	0.12	160

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P034	131-89-5	Phenol, 2-cyclohexyl-4,6-dinitro-	2-Cyclohexyl-4,6-dinitrophenol	131-89-5	(WETOX or CHOXD) fb CARBN; or CMBST	CMBST
P047	534-52-1	Phenol, 2-methyl-4,6-dinitro-, & salts	See 4,6-Dinitro-o-cresol, & salts			
P202	64-00-6	Phenol, 3-(1-methylethyl)-, methyl carbamate	m-Cumenyl methylcarbamate	64-00-6	0.056	1.4
P201	2631-37-0	Phenol, 3-methyl-5-(1-methylethyl)-,methyl carbamate	Promecarb	2631-37-0	0.056	1.4
P199	2032-65-7	Phenol,(3,5-dimethyl-4-(methylthio)-,methylcarbamate	Methiocarb	2032-65-7	0.056	1.4
P128	315-18-4	Phenol,4-(dimethylamino)-3,5-dimethyl-, methylcarbamate (ester)	Mexacarbate	315-18-4	0.056	1.4
P092	62-38-4	Phenylmercury acetate	See Mercury, (acetato-O)phenyl-			
P093	103-85-5	Phenylthiourea	Phenylthiourea	103-85-5	(WETOX or CHOXD) fb CARBN; or CMBST	CMBST
P094	298-02-2	Phorate	Phorate	298-02-2	0.021	4.6
P095	75-44-5	Phosgene	Phosgene	75-44-5	(WETOX or CHOXD) fb CARBN; or CMBST	CMBST
P096	7803-51-2	Phosphine	Phosphine	7803-51-2	CHOXD; CHRED; or CMBST	CHOXD; CHRED; or CMBST
P041	311-45-5	Phosphoric acid, diethyl 4-nitrophenyl ester	Diethyl-p-nitrophenyl phosphate	311-45-5	CARBAN; or CMBST	CMBST
P094	298-02-2	Phosphorodithioic acid, O,O-diethyl S-[(ethylthio)methyl] ester	Phorate	298-02-2	0.021	4.6
P039	298-04-4	Phosphorodithioic acid, O,O-diethyl S-[2-(ethylthio)ethyl] ester	Disulfoton	298-04-4	0.017	6.2
P044	60-51-5	Phosphorodithioic acid,O,O-dimethylS-[2-(methylamino)-2-oxoethyl] ester	Dimethoate	60-51-5	CARBAN; or CMBST	CMBST
P043	55-91-4	Phosphorofluoridic acid, bis(1-methylethyl) ester	Diisopropylfluorophosphate (DFP)	55-91-4	CARBAN; or CMBST	CMBST
P071	298-00-0	Phosphorothioic acid, O,O,-dimethyl O-(4-nitrophenyl) ester	Methyl parathion	298-00-0	0.014	4.6
P089	56-38-2	Phosphorothioic acid, O,O-diethyl O-(4-nitrophenyl) ester	Parathion	56-38-2	0.014	4.6
P040	297-97-2	Phosphorothioic acid, O,O-diethyl O-pyrazinyl ester	O,O-Diethyl O-pyrazinyl phosphorothioate	297-97-2	CARBAN; or CMBST	CMBST
P097	52-85-7	Phosphorothioic acid, O-[4-[(dimethylamino)sulfonyl]phenyl] O,O-r dimethyl ester	Famphur	52-85-7	0.017	15
P188	57-64-7	Physostigmine salicylate.	Physostigmine salicylate	57-64-7	0.056	1.4
P204	57-47-6	Physostigmine.	Physostigmine	57-47-6	0.056	1.4
P110	78-00-2	Plumbane, tetraethyl-	Lead	7439-92-1	0.69	0.75 mg/L TCLP
P077	100-01-6	p-Nitroaniline	p-Nitroaniline	100-01-6	0.028	28
P098	151-50-8	Potassium cyanide	Cyanides (Total) <sup>7</sup>	57-12-5	1.2	590

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			Cyanides (Amenable) <sup>7</sup>	57-12-5	0.86	30
P098	151-50-8	Potassium cyanide K(CN)	Cyanides (Total) <sup>7</sup>	57-12-5	1.2	590
			Cyanides (Amenable) <sup>7</sup>	57-12-5	0.86	30
P099	506-61-6	Potassium silver cyanide	Cyanides (Total) <sup>7</sup>	57-12-5	1.2	590
			Cyanides (Amenable) <sup>7</sup>	57-12-5	0.86	30
			Silver	7440-22-4	0.43	0.14 mg/L TCLP
P201	2631-37-0	Promecarb	Promecarb	2631-37-0	0.056	1.4
P203	1646-88-4	Propanal,2-methyl-2-(methyl-sulfonyl)-,O-[(methylamino)carbon yl] oxime	Aldicarb sulfone	1646-88-4	0.056	0.28
P070	116-06-3	Propanal,2-methyl-2-(methylthio)-,O-[(methylamino)carbon yl]oxime	Aldicarb	116-06-3	(WETOX or CHOXD) fb CARBN; or CMBST	CMBST
P101	107-12-0	Propanenitrile	Ethyl cyanide (Propanenitrile)	107-12-0	0.24	360
P069	75-86-5	Propanenitrile, 2-hydroxy-2-methyl-	2-Methylactonitrile	75-86-5	(WETOX or CHOXD) fb CARBN; or CMBST	CMBST
P027	542-76-7	Propanenitrile, 3-chloro-	3-Chloropropionitrile	542-76-7	(WETOX or CHOXD) fb CARBN; or CMBST	CMBST
P102	107-19-7	Propargyl alcohol	Propargyl alcohol	107-19-7	(WETOX or CHOXD) fb CARBN; or CMBST	CMBST
P075	54-11-5	Pyridine, 3-(1-methyl-2-pyrrolidinyl)-, (S)-, & salts	Nicotine and salts	54-11-5	(WETOX or CHOXD) fb CARBN; or CMBST	CMBST
P204	57-47-6	Pyrrolo[2,3-b]indol-5-ol,1,2,3,3a,8,8a-hexahydro-1,3a,8-trimethyl-,methylcarbamate (ester),(3aS-cis)-	Physostigmine	57-47-6	0.056	1.4
P114	12039-52-0	Selenious acid, dithallium(1+) salt	Selenium	7782-49-2	0.82	5.7 mg/L TCLP
P103	630-10-4	Selenourea	Selenium	7782-49-2	0.82	5.7 mg/L TCLP
P104	506-64-9	Silver cyanide	Cyanides (Total) <sup>7</sup>	57-12-5	1.2	590
			Cyanides (Amenable) <sup>7</sup>	57-12-5	0.86	30
			Silver	7440-22-4	0.43	0.14 mg/L TCLP
P104	506-64-9	Silver cyanide Ag(CN)	Cyanides (Total) <sup>7</sup>	57-12-5	1.2	590
			Cyanides (Amenable) <sup>7</sup>	57-12-5	0.86	30
			Silver	7440-22-4	0.43	0.14 mg/L TCLP
P105	26628-22-8	Sodium azide	Sodium azide	26628-22-8	CHOXD; CHRED; CARBN; BIODG; or CMBST	CHOXD; CHRED; or CMBST
P106	143-33-9	Sodium cyanide	Cyanides (Total) <sup>7</sup>	57-12-5	1.2	590
			Cyanides (Amenable) <sup>7</sup>	57-12-5	0.86	30
P106	143-33-9	Sodium cyanide Na(CN)	Cyanides (Total) <sup>7</sup>	57-12-5	1.2	590
			Cyanides (Amenable) <sup>7</sup>	57-12-5	0.86	30
P108	57-24-9	Strychnidin-10-one, & salts	Strychnine and salts	57-24-9	(WETOX or CHOXD) fb CARBN; or CMBST	CMBST
P018	357-57-3	Strychnidin-10-one, 2,3-dimethoxy-	Brucine	357-57-3	(WETOX or CHOXD) fb CARBN; or CMBST	CMBST
P108	57-24-9	Strychnine, & salts	Strychnine and salts	57-24-9	(WETOX or CHOXD) fb CARBN; or CMBST	CMBST
P115	7446-18-6	Sulfuric acid, dithallium(1+) salt	Thallium (measured in aqueous wastes only)	7440-28-0	1.4	RTHRM; or STABL

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P110	78-00-2	Tetraethyl lead	Lead	7439-92-1	0.69	0.75 mg/L TCLP
P111	107-49-3	Tetraethyl pyrophosphate	Tetraethylpyrophosphate	107-49-3	CARB; or CMBST	CMBST
P109	3689-24-5	Tetraethyldithiopyrophosphate	Tetraethyldithiopyrophosphate	3689-24-5	CARB; or CMBST	CMBST
P112	509-14-8	Tetranitromethane	Tetranitromethane	509-14-8	CHOXD; CHRED; CARB; BIODG; or CMBST	CHOXD; CHRED; or CMBST
P062	757-58-4	Tetraphosphoric acid, hexaethyl ester	Hexaethyl tetraphosphate	757-58-4	CARB; or CMBST	CMBST
P113	1314-32-5	Thallic oxide	Thallium (measured in aqueous wastes only)	7440-28-0	1.4	RTHRM; or STABL
P113	1314-32-5	Thallium oxide $Tl_2O_3$	Thallium (measured in aqueous wastes only)	7440-28-0	1.4	RTHRM; or STABL
P114	12039-52-0	Thallium(I) selenite	Selenium	7782-49-2	0.82	5.7 mg/L TCLP
P115	7446-18-6	Thallium(I) sulfate	Thallium (measured in aqueous wastes only)	7440-28-0	1.4	RTHRM; or STABL
P109	3689-24-5	Thiodiphosphoric acid, tetraethyl ester	Tetraethyldithiopyrophosphate	3689-24-5	CARB; or CMBST	CMBST
P045	39196-18-4	Thiofanox	Thiofanox	39196-18-4	(WETOX or CHOXD) fb CARB; or CMBST	CMBST
P049	541-53-7	Thioimidodicarbonic diamide $[(H_2N)C(S)]_2NH$	Dithiobiuret	541-53-7	(WETOX or CHOXD) fb CARB; or CMBST	CMBST
P014	108-98-5	Thiophenol	Thiophenol (Benzene thiol)	108-98-5	(WETOX or CHOXD) fb CARB; or CMBST	CMBST
P116	79-19-6	Thiosemicarbazide	Thiosemicarbazide	79-19-6	(WETOX or CHOXD) fb CARB; or CMBST	CMBST
P026	5344-82-1	Thiourea, (2-chlorophenyl)-	1-(o-Chlorophenyl)thiourea	5344-82-1	(WETOX or CHOXD) fb CARB; or CMBST	CMBST
P072	86-88-4	Thiourea, 1-naphthalenyl-	1-Naphthyl-2-thiourea	86-88-4	(WETOX or CHOXD) fb CARB; or CMBST	CMBST
P093	103-85-5	Thiourea, phenyl-	Phenylthiourea	103-85-5	(WETOX or CHOXD) fb CARB; or CMBST	CMBST
P185	26419-73-8	Tirpate	Tirpate	26419-73-8	BIODG; CARB; CHOXD; CMBST or 0.056	CMBST or 0.28
P123	8001-35-2	Toxaphene	Toxaphene	8001-35-2	0.0095	2.6
P118	75-70-7	Trichloromethanethiol	Trichloromethanethiol	75-70-7	(WETOX or CHOXD) fb CARB; or CMBST	CMBST
P119	7803-55-6	Vanadic acid, ammonium salt	Vanadium (measured in aqueous wastes only)	7440-62-2	4.3	STABL
P120	1314-62-1	Vanadium oxide, $V_2O_5$	Vanadium (measured in aqueous wastes only)	7440-62-2	4.3	STABL
P120	1314-62-1	Vanadium pentoxide	Vanadium (measured in aqueous wastes only)	7440-62-2	4.3	STABL
P084	4549-40-0	Vinylamine, N-methyl-N-nitroso-	N-Nitrosomethylvinylamine	4549-40-0	(WETOX or CHOXD) fb CARB; or CMBST	CMBST
P001	81-81-2	Warfarin, & salts, when present at concentrations greater than 0.3%	Warfarin	81-81-2	(WETOX or CHOXD) fb CARB; or CMBST	CMBST



## Part A of Schedule 2 – Acute Hazardous Waste Chemical

P121	557-21-1	Zinc cyanide	Cyanides (Total) <sup>7</sup>	57-12-5	1.2	590
			Cyanides (Amenable) <sup>7</sup>	57-12-5	0.86	30
P121	557-21-1	Zinc cyanide Zn(CN) <sub>2</sub>	Cyanides (Total) <sup>7</sup>	57-12-5	1.2	590
			Cyanides (Amenable) <sup>7</sup>	57-12-5	0.86	30
P122	1314-84-7	Zinc phosphide Zn <sub>3</sub> P <sub>2</sub> , when present at concentrations greater than 10%	Zinc Phosphide	1314-84-7	CHOXD; CHRED; or CMBST	CHOXD; CHRED; or CMBST
P205	137-30-4	Zinc, bis(dimethylcarbamodithioato-S,S')-	Dithiocarbamates (total)	NA	0.028	28
P205	137-30-4	Ziram	Dithiocarbamates (total)	NA	0.028	28

### Notes to Part A of Schedule 2:

<sup>1</sup> Treatment subcategories are shown for some wastes. In these cases, it is necessary to identify the treatment subcategory that most closely describes the particular waste for which treatment is required. The land disposal treatment requirements for that waste are those shown for that treatment subcategory.

<sup>2</sup> Haz. Waste Number means Hazardous Waste Number. These numbers are consistent with United States Environmental Protection Agency Hazardous Waste Numbers. If there is no United States Environmental Protection Agency Hazardous Waste Number for a waste, the Hazardous Waste Number is assigned to the waste by the Ontario Ministry of the Environment.

<sup>3</sup> CAS Number means the Chemical Abstracts Service Registry Number. When the waste or a regulated constituent is described as a combination of a chemical with its salts or esters, the CAS number is given for the parent compound only.

<sup>4</sup> See Schedule 7 for a description of the treatment methods and treatment standards associated with each treatment code. In some cases, the entries in this Schedule may set out more than one treatment code for a regulated constituent. An entry may permit a choice of treatment methods. For example, the entry “CHOXD; BIODG; or CMBST” means that the waste may be treated using any of the treatment methods that are set out for those treatment codes in Schedule 7. An entry may require treatment methods to be applied in a particular sequence. For this purpose, the abbreviation “fb” means “followed by”. For example, the entry “CHOXD fb CARBN” means that the waste must first be treated using the treatment method that is set out for CHOXD in Schedule 7 and, following that treatment, it must be treated using the treatment method that is set out for CARBN in Schedule 7. An entry may combine a choice of treatment methods and a requirement to apply treatment methods in a particular sequence (for example, “(WETOX or CHOXD) fb CARBN; or CMBST”).

<sup>5</sup> Concentration requirements for aqueous wastes are based on analysis of composite samples.

<sup>6</sup> Concentration requirements for non-aqueous wastes are based on analysis of grab samples.

<sup>7</sup> Both Cyanides (Total) and Cyanides (Amenable) for non-aqueous wastes are to be analyzed using Method 9010 or 9012, found in “Test Methods for Evaluating Solid Waste, Physical/ Chemical Methods”, United States Environmental Protection Agency Publication SW-846, with a sample size of 10 grams and a distillation time of one hour and 15 minutes.

**Part B of Schedule 2 – Hazardous Waste Chemical**

**[Appendix A](#)**

**Part B of Schedule 2 – Hazardous Waste Chemical**

## Part B of Schedule 2 – Hazardous Waste Chemical

Hazardous Waste Chemical			Regulated Constituents (and Treatment Subcategories <sup>1</sup> )		Land Disposal Treatment Requirements	
Column 1	Column 2	Column 3	Column 4	Column 5	Aqueous Waste Column 6	Non-aqueous Waste Column 7
Haz. Waste Number <sup>2</sup>	CAS Number <sup>3</sup>	Generic Name	Generic Name or other description	CAS Number <sup>3</sup>	Treatment Code <sup>4</sup> or Concentration <sup>5</sup> (mg/L)	Treatment Code <sup>4</sup> or Concentration <sup>6</sup> (mg/kg, unless otherwise indicated)
U021	92-87-5	[1,1'-Biphenyl]-4,4'- diamine	Benzidine	92-87-5	(WETOX or CHOXD) fb CARBN; or CMBST	CMBST
U073	91-94-1	[1,1'-Biphenyl]-4,4'- diamine, 3,3'-dichloro-	3,3'-Dichlorobenzidine	91-94-1	(WETOX or CHOXD) fb CARBN; or CMBST	CMBST
U091	119-90-4	[1,1'-Biphenyl]-4,4'- diamine, 3,3'- dimethoxy-	3,3'- Dimethoxybenzidine	119-90-4	(WETOX or CHOXD) fb CARBN; or CMBST	CMBST
U095	119-93-7	[1,1'-Biphenyl]-4,4'- diamine, 3,3'- dimethyl-	3,3'-Dimethylbenzidine	119-93-7	(WETOX or CHOXD) fb CARBN; or CMBST	CMBST
U208	630-20-6	1,1,1,2- Tetrachloroethane	1,1,1,2- Tetrachloroethane	630-20-6	0.057	6.0
U209	79-34-5	1,1,2,2- Tetrachloroethane	1,1,2,2- Tetrachloroethane	79-34-5	0.057	6.0
U227	79-00-5	1,1,2-Trichloroethane	1,1,2-Trichloroethane	79-00-5	0.054	6.0
U078	75-35-4	1,1-Dichloroethylene	1,1-Dichloroethylene	75-35-4	0.025	6.0
U098	57-14-7	1,1-Dimethylhydrazine	1,1-Dimethylhydrazine	57-14-7	CHOXD; CHRED; CARBN; BIODG; or CMBST	CHOXD; CHRED; or CMBST
U207	95-94-3	1,2,4,5- Tetrachlorobenzene	1,2,4,5- Tetrachlorobenzene	95-94-3	0.055	14
U085	1464-53-5	1,2,3,4-Diepoxybutane	1,2,3,4-Diepoxybutane	1464-53-5	(WETOX or CHOXD) fb CARBN; or CMBST	CMBST
U069	84-74-2	1,2- Benzenedicarboxylic acid, dibutyl ester	Di-n-butyl phthalate	84-74-2	0.057	28
U088	84-66-2	1,2- Benzenedicarboxylic acid, diethyl ester	Diethyl phthalate	84-66-2	0.20	28
U102	131-11-3	1,2- Benzenedicarboxylic acid, dimethyl ester	Dimethyl phthalate	131-11-3	0.047	28
U107	117-84-0	1,2- Benzenedicarboxylic acid, dioctyl ester	Di-n-octyl phthalate	117-84-0	0.017	28
U028	117-81-7	1,2- Benzenedicarboxylic acid, bis(2-ethylhexyl) ester	bis(2-Ethylhexyl) phthalate	117-81-7	0.28	28
U202	81-07-2	1,2-Benzisothiazol- 3(2H)-one, 1,1- dioxide, & salts	Saccharin	81-07-2	(WETOX or CHOXD) fb CARBN; or CMBST	CMBST
U066	96-12-8	1,2-Dibromo-3- chloropropane	1,2-Dibromo-3- chloropropane	96-12-8	0.11	15

## Part B of Schedule 2 – Hazardous Waste Chemical

U079	156-60-5	1,2-Dichloroethylene	trans-1,2-Dichloroethylene	156-60-5	0.054	30
U099	540-73-8	1,2-Dimethylhydrazine	1,2-Dimethylhydrazine	540-73-8	CHOXD; CHRED; CARBN; BIODG; or CMBST	CHOXD; CHRED; or CMBST
U109	122-66-7	1,2-Diphenylhydrazine	1,2-Diphenylhydrazine	122-66-7	CHOXD; CHRED; CARBN; BIODG; CMBST or 0.087	CHOXD; CHRED; or CMBST
U155	91-80-5	1,2-Ethanediamine,N,N-dimethyl-N'-2-pyridinyl-N'-(2-thienylmethyl)-	Methapyrilene	91-80-5	0.081	1.5
U193	1120-71-4	1,2-Oxathiolane, 2,2-dioxide	1,3-Propane sultone	1120-71-4	(WETOX or CHOXD) fb CARBN; or CMBST	CMBST
U142	143-50-0	1,3,4-Metheno-2H-cyclobuta[cd]pentalen-2-one, 1,1a,3,3a,4,5,5,5a,5b,6-decachlorooctahydro-	Kepone	143-50-0	0.0011	0.13
U234	99-35-4	1,3,5-Trinitrobenzene	1,3,5-Trinitrobenzene	99-35-4	(WETOX or CHOXD) fb CARBN; or CMBST	CMBST
U182	123-63-7	1,3,5-Trioxane, 2,4,6-trimethyl-	Paraldehyde	123-63-7	(WETOX or CHOXD) fb CARBN; or CMBST	CMBST
U201	108-46-3	1,3-Benzenediol	Resorcinol	108-46-3	(WETOX or CHOXD) fb CARBN; or CMBST	CMBST
U364	22961-82-6	1,3-Benzodioxol-4-ol, 2,2-dimethyl-,	Bendiocarb phenol	22961-82-6	BIODG; CARBN; CHOXD; CMBST or 0.056	CMBST or 1.4
U278	22781-23-3	1,3-Benzodioxol-4-ol, 2,2-dimethyl-,methyl carbamate	Bendiocarb	22781-23-3	0.056	1.4
U141	120-58-1	1,3-Benzodioxole, 5-(1-propenyl)-	Isosafrole	120-58-1	0.081	2.6
U203	94-59-7	1,3-Benzodioxole, 5-(2-propenyl)-	Safrole	94-59-7	0.081	22
U090	94-58-6	1,3-Benzodioxole, 5-propyl-	Dihydrosafrole	94-58-6	(WETOX or CHOXD) fb CARBN; or CMBST	CMBST
U128	87-68-3	1,3-Butadiene, 1,1,2,3,4,4-hexachloro-	Hexachlorobutadiene	87-68-3	0.055	5.6
U130	77-47-4	1,3-Cyclopentadiene, 1,2,3,4,5,5-hexachloro-	Hexachlorocyclopentadiene	77-47-4	0.057	2.4
U084	542-75-6	1,3-Dichloropropene	cis-1,3-Dichloropropylene	10061-01-5	0.036	18
			trans-1,3-Dichloropropylene	10061-02-6	0.036	18
U190	85-44-9	1,3-Isobenzofurandione	Phthalic anhydride (measured as Phthalic	100-21-0; 85-44-9	0.055	28

## Part B of Schedule 2 – Hazardous Waste Chemical

			acid or Terephthalic acid)			
U186	504-60-9	1,3-Pentadiene	1,3-Pentadiene	504-60-9	(WETOX or CHOXD) fb CARBN; or CMBST	CMBST
U193	1120-71-4	1,3-Propane sultone	1,3-Propane sultone	1120-71-4	(WETOX or CHOXD) fb CARBN; or CMBST	CMBST
U074	764-41-0	1,4-Dichloro-2-butene	cis-1,4-Dichloro-2-butene	1476-11-5	(WETOX or CHOXD) fb CARBN; or CMBST	CMBST
			trans-1,4-Dichloro-2-butene	764-41-0	(WETOX or CHOXD) fb CARBN; or CMBST	CMBST
U108	123-91-1	1,4-Diethyleneoxide	1,4-Dioxane	123-91-1	(WETOX or CHOXD) fb CARBN; or CMBST or 12	CMBST or 170
U108	123-91-1	1,4-Dioxane	1,4-Dioxane	123-91-1	(WETOX or CHOXD) fb CARBN; or CMBST or 12	CMBST or 170
U166	130-15-4	1,4-Naphthalenedione	1,4-Naphthoquinone	130-15-4	(WETOX or CHOXD) fb CARBN; or CMBST	CMBST
U166	130-15-4	1,4-Naphthoquinone	1,4-Naphthoquinone	130-15-4	(WETOX or CHOXD) fb CARBN; or CMBST	CMBST
U172	924-16-3	1-Butanamine, N-butyl-N-nitroso-	N-Nitroso-di-n-butylamine	924-16-3	0.04	17
U031	71-36-3	1-Butanol	n-Butyl alcohol	71-36-3	5.6	2.6
U011	61-82-5	1H-1,2,4-Triazol-3-amine	Amitrole	61-82-5	(WETOX or CHOXD) fb CARBN; or CMBST	CMBST
U186	504-60-9	1-Methylbutadiene	1,3-Pentadiene	504-60-9	(WETOX or CHOXD) fb CARBN; or CMBST	CMBST
U167	134-32-7	1-Naphthalenamine	1-Naphthylamine	134-32-7	(WETOX or CHOXD) fb CARBN; or CMBST	CMBST
U279	63-25-2	1-Naphthalenol, methylcarbamate	Carbaryl	63-25-2	0.006	0.14
U194	107-10-8	1-Propanamine	n-Propylamine	107-10-8	(WETOX or CHOXD) fb CARBN; or CMBST	CMBST
U111	621-64-7	1-Propanamine, N-nitroso-N-propyl-	Di-n-propylnitrosamine	621-64-7	0.40	14
U110	142-84-7	1-Propanamine, N-propyl-	Dipropylamine	142-84-7	(WETOX or CHOXD) fb CARBN; or CMBST	CMBST
U235	126-72-7	1-Propanol, 2,3-dibromo-, phosphate (3:1)	Tris(2,3-Dibromopropyl) phosphate	126-72-7	0.11	0.10
U140	78-83-1	1-Propanol, 2-methyl-	Isobutyl alcohol	78-83-1	5.6	170

## Part B of Schedule 2 – Hazardous Waste Chemical

U243	1888-71-7	1-Propene, 1,1,2,3,3,3-hexachloro-	Hexachloropropylene	1888-71-7	0.035	30
U084	542-75-6	1-Propene, 1,3-dichloro-	cis-1,3-Dichloropropylene	10061-01-5	0.036	18
			trans-1,3-Dichloropropylene	10061-02-6	0.036	18
U085	1464-53-5	2,2-Bioxirane	1,2,3,4-Diepoxybutane	1464-53-5	(WETOX or CHOXD) fb CARBN; or CMBST	CMBST
See F027	58-90-2	2,3,4,6-Tetrachlorophenol	See F027 in Schedule 1			
U237	66-75-1	2,4-(1H,3H)-Pyrimidinedione, 5-[bis(2-chloroethyl)amino]-	Uracil mustard	66-75-1	(WETOX or CHOXD) fb CARBN; or CMBST	CMBST
See F027	93-76-5	2,4,5-T	See F027 in Schedule 1			
See F027	95-95-4	2,4,5-Trichlorophenol	See F027 in Schedule 1			
See F027	88-06-2	2,4,6-Trichlorophenol	See F027 in Schedule 1			
U240	94-75-7	2,4-D, salts & esters	<b>Treatment Subcategory 1</b>			
			2,4-D (2,4-Dichlorophenoxyacetic acid):			
			2,4-D(2,4-Dichlorophenoxyacetic acid)	94-75-7	0.72	10
			<b>Treatment Subcategory 2</b>			
			2,4-D (2,4-Dichlorophenoxyacetic acid) salts and esters:			
			2,4-D (2,4-Dichlorophenoxyacetic acid) salts and esters	NA	(WETOX or CHOXD) fb CARBN; or CMBST	CMBST
U081	120-83-2	2,4-Dichlorophenol	2,4-Dichlorophenol	120-83-2	0.044	14
U101	105-67-9	2,4-Dimethylphenol	2,4-Dimethylphenol	105-67-9	0.036	14
U105	121-14-2	2,4-Dinitrotoluene	2,4-Dinitrotoluene	121-14-2	0.32	140
U197	106-51-4	2,5-Cyclohexadiene-1,4-dione	p-Benzoquinone	106-51-4	(WETOX or CHOXD) fb CARBN; or CMBST	CMBST
U147	108-31-6	2,5-Furandione	Maleic anhydride	108-31-6	(WETOX or CHOXD) fb CARBN; or CMBST	CMBST
U082	87-65-0	2,6-Dichlorophenol	2,6-Dichlorophenol	87-65-0	0.044	14
U106	606-20-2	2,6-Dinitrotoluene	2,6-Dinitrotoluene	606-20-2	0.55	28
U236	72-57-1	2,7-Naphthalenedisulfonic acid, 3,3'-[(3,3'-dimethyl[1,1'-biphenyl]-4,4'-diyl)bis(azo)bis[5-amino-4-hydroxy]-, tetrasodium salt	Trypan Blue	72-57-1	(WETOX or CHOXD) fb CARBN; or CMBST	CMBST
U005	53-96-3	2-Acetylaminofluorene	2-Acetylaminofluorene	53-96-3	0.059	140
U159	78-93-3	2-Butanone	Methyl ethyl ketone	78-93-3	0.28	36
U160	1338-23-4	2-Butanone, peroxide	Methyl ethyl ketone peroxide	1338-23-4	CHOXD; CHRED; CARBN; BIODG; or CMBST	CHOXD; CHRED; or CMBST
U053	4170-30-3	2-Butenal	Crotonaldehyde	4170-30-3	(WETOX or CHOXD) fb CARBN; or CMBST	CMBST

## Part B of Schedule 2 – Hazardous Waste Chemical

U074	764-41-0	2-Butene, 1,4-dichloro-	cis,1,4-Dichloro-2-butene	1476-11-5	(WETOX or CHOXD) fb CARBN; or CMBST	CMBST
			trans-1,4-Dichloro-2-butene	764-41-0	(WETOX or CHOXD) fb CARBN; or CMBST	CMBST
U143	303-34-4	2-Butenoic acid, 2-methyl-, 7-[[[2,3-dihydroxy-2-(1-methoxyethyl)-3-methyl-1-oxobutoxy]methyl]-2,3,5,7a-tetrahydro-1H-pyrrolizin-1-yl ester,[1S-[1alpha(Z),7(2S*,3R*)],7aalpha]]-	Lasiocarpine	303-34-4	(WETOX or CHOXD) fb CARBN; or CMBST	CMBST
U042	110-75-8	2-Chloroethyl vinyl ether	2-Chloroethyl vinyl ether	110-75-8	0.062	CMBST
U125	98-01-1	2-Furancarboxaldehyde	Furfural	98-01-1	(WETOX or CHOXD) fb CARBN; or CMBST	CMBST
U058	50-18-0	2H-1,3,2-Oxazaphosphorin-2-amine,N,N-bis(2-chloroethyl)tetrahydro-, 2-oxide	Cyclophosphamide	50-18-0	CARBN; or CMBST	CMBST
U248	81-81-2	2H-1-Benzopyran-2-one,4-hydroxy-3-(3-oxo-1-phenyl-butyl)-, & salts, when present at concentrations of 0.3% or less	Warfarin	81-81-2	(WETOX or CHOXD) fb CARBN; or CMBST	CMBST
U116	96-45-7	2-Imidazolidinethione	Ethylene thiourea	96-45-7	(WETOX or CHOXD) fb CARBN; or CMBST	CMBST
U168	91-59-8	2-Naphthalenamine	2-Naphthylamine	91-59-8	0.52	CMBST
U171	79-46-9	2-Nitropropane	2-Nitropropane	79-46-9	(WETOX or CHOXD) fb CARBN; or CMBST	CMBST
U191	109-06-8	2-Picoline	2-Picoline	109-06-8	(WETOX or CHOXD) fb CARBN; or CMBST	CMBST
U002	67-64-1	2-Propanone	Acetone	67-64-1	0.28	160
U007	79-06-1	2-Propenamide	Acrylamide	79-06-1	(WETOX or CHOXD) fb CARBN; or CMBST	CMBST
U009	107-13-1	2-Propenenitrile	Acrylonitrile	107-13-1	0.24	84
U152	126-98-7	2-Propenenitrile, 2-methyl-	Methacrylonitrile	126-98-7	0.24	84
U008	79-10-7	2-Propenoic acid	Acrylic acid	79-10-7	(WETOX or CHOXD) fb CARBN; or CMBST	CMBST
U118	97-63-2	2-Propenoic acid, 2-methyl-, ethyl ester	Ethyl methacrylate	97-63-2	0.14	160
U162	80-62-6	2-Propenoic acid, 2-methyl-, methyl ester	Methyl methacrylate	80-62-6	0.14	160

## Part B of Schedule 2 – Hazardous Waste Chemical

U113	140-88-5	2-Propenoic acid, ethyl ester	Ethyl acrylate	140-88-5	(WETOX or CHOXD) fb CARBN; or CMBST	CMBST
U073	91-94-1	3,3'-Dichlorobenzidine	3,3'-Dichlorobenzidine	91-94-1	(WETOX or CHOXD) fb CARBN; or CMBST	CMBST
U091	119-90-4	3,3'-Dimethoxybenzidine	3,3'-Dimethoxybenzidine	119-90-4	(WETOX or CHOXD) fb CARBN; or CMBST	CMBST
U095	119-93-7	3,3'-Dimethylbenzidine	3,3'-Dimethylbenzidine	119-93-7	(WETOX or CHOXD) fb CARBN; or CMBST	CMBST
U148	123-33-1	3,6-Pyridazinedione, 1,2-dihydro-	Maleic hydrazide	123-33-1	(WETOX or CHOXD) fb CARBN; or CMBST	CMBST
U157	56-49-5	3-Methylcholanthrene	3-Methylcholanthrene	56-49-5	0.0055	15
U164	56-04-2	4(1H)-Pyrimidinone, 2,3-dihydro-6-methyl-2-thioxo-	Methylthiouracil	56-04-2	(WETOX or CHOXD) fb CARBN; or CMBST	CMBST
U158	101-14-4	4,4'-Methylenebis(2-chloroaniline)	4,4'-Methylene bis(2-chloroaniline)	101-14-4	0.50	30
U036	57-74-9	4,7-Methano-1H-indene, 1,2,4,5,6,7,8,8-octachloro-2,3,3a,4,7,7a-hexahydro-	Chlordane (alpha and gamma isomers)	57-74-9	0.0033	0.26
U030	101-55-3	4-Bromophenyl phenyl ether	4-Bromophenyl phenyl ether	101-55-3	0.055	15
U049	3165-93-3	4-Chloro-o-toluidine, hydrochloride	4-Chloro-o-toluidine hydrochloride	3165-93-3	(WETOX or CHOXD) fb CARBN; or CMBST	CMBST
U161	108-10-1	4-Methyl-2-pentanone	Methyl isobutyl ketone	108-10-1	0.14	33
U059	20830-81-3	5,12-Naphthacenedione,8-acetyl-10-[(3-amino-2,3,6-trideoxy)-alpha-L-lyxo-hexopyranosyl)oxy]-7,8,9,10-tetrahydro-6,8,11-trihydroxy-1-methoxy-, (8S-cis)-	Dauinomycin	20830-81-3	(WETOX or CHOXD) fb CARBN; or CMBST	CMBST
U181	99-55-8	5-Nitro-o-toluidine	5-Nitro-o-toluidine	99-55-8	0.32	28
U094	57-97-6	7,12-Dimethylbenz[a]anthracene	7,12-Dimethylbenz(a)anthracene	57-97-6	(WETOX or CHOXD) fb CARBN; or CMBST	CMBST
U367	1563-38-8	7-Benzofuranol, 2,3-dihydro-2,2-dimethyl-	Carbofuran phenol	1563-38-8	0.056	1.4
U394	30558-43-1	A2213	A2213	30558-43-1	BIODG; CARBN; CHOXD; CMBST or 0.042	CMBST or 1.4
U001	75-07-0	Acetaldehyde	Acetaldehyde	75-07-0	(WETOX or CHOXD) fb CARBN; or CMBST	CMBST
U034	75-87-6	Acetaldehyde, trichloro-	Trichloroacetaldehyde (Chloral)	75-87-6	(WETOX or CHOXD)	CMBST



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					fb CARBN; or CMBST	
U187	62-44-2	Acetamide, N-(4-ethoxyphenyl)-	Phenacetin	62-44-2	0.081	16
U005	53-96-3	Acetamide, N-9H-fluoren-2-yl-	2-Acetylaminofluorene	53-96-3	0.059	140
U112	141-78-6	Acetic acid ethyl ester	Ethyl acetate	141-78-6	0.34	33
See F027	93-76-5	Acetic acid, (2,4,5-trichlorophenoxy)-	See F027 in Schedule 1			
U240	94-75-7	Acetic acid, (2,4-dichlorophenoxy)-, salts & esters	See 2,4-D, salts & esters			
U144	301-04-2	Acetic acid, lead(2+) salt	Lead	7439-92-1	0.69	0.75 mg/L TCLP
U214	563-68-8	Acetic acid, thallium(1+) salt	Thallium (measured in aqueous wastes only)	7440-28-0	1.4	RTHRM; or STABL
U002	67-64-1	Acetone	Acetone	67-64-1	0.28	160
U003	75-05-8	Acetonitrile	Acetonitrile	75-05-8	5.6	CMBST or 38
U004	98-86-2	Acetophenone	Acetophenone	98-86-2	0.010	9.7
U006	75-36-5	Acetyl chloride	Acetyl Chloride	75-36-5	(WETOX or CHOXD) fb CARBN; or CMBST	CMBST
U007	79-06-1	Acrylamide	Acrylamide	79-06-1	(WETOX or CHOXD) fb CARBN; or CMBST	CMBST
U008	79-10-7	Acrylic acid	Acrylic acid	79-10-7	(WETOX or CHOXD) fb CARBN; or CMBST	CMBST
U009	107-13-1	Acrylonitrile	Acrylonitrile	107-13-1	0.24	84
U096	80-15-9	alpha,alpha-Dimethylbenzylhydroperoxide	alpha, alpha-Dimethyl benzyl hydroperoxide	80-15-9	CHOXD; CHRED; CARBN; BIODG; or CMBST	CHOXD; CHRED; or CMBST
U167	134-32-7	alpha-Naphthylamine	1-Naphthylamine	134-32-7	(WETOX or CHOXD) fb CARBN; or CMBST	CMBST
U011	61-82-5	Amitrole	Amitrole	61-82-5	(WETOX or CHOXD) fb CARBN; or CMBST	CMBST
U012	62-53-3	Aniline	Aniline	62-53-3	0.81	14
U136	75-60-5	Arsinic acid, dimethyl-	Arsenic	7440-38-2	1.4	5.0 mg/L TCLP
U014	492-80-8	Auramine	Auramine	492-80-8	(WETOX or CHOXD) fb CARBN; or CMBST	CMBST
U015	115-02-6	Azaserine	Azaserine	115-02-6	(WETOX or CHOXD) fb CARBN; or CMBST	CMBST
U010	50-07-7	Azirino[2,3_3,4]pyrrol o[1,2-a]indole-4,7-dione,6-amino-8-[[[(aminocarbonyl)oxy]methyl]-1,1a,2,8,8a,8b-hexahydro-8a-methoxy-5-methyl-, [1aS-(1aalpha,8beta,8aalpha	Mitomycin C	50-07-7	(WETOX or CHOXD) fb CARBN; or CMBST	CMBST

## Part B of Schedule 2 – Hazardous Waste Chemical

		,8balpha)]-				
U280	101-27-9	Barban	Barban	101-27-9	0.056	1.4
U278	22781-23-3	Bendiocarb	Bendiocarb	22781-23-3	0.056	1.4
U364	22961-82-6	Bendiocarb phenol	Bendiocarb phenol	22961-82-6	BIODG; CARBN; CHOXD; CMBST or 0.056	CMBST or 1.4
U271	17804-35-2	Benomyl	Benomyl	17804-35-2	0.056	1.4
U018	56-55-3	Benz[a]anthracene	Benz(a)anthracene	56-55-3	0.059	3.4
U094	57-97-6	Benz[a]anthracene, 7,12-dimethyl-	7,12-Dimethylbenz(a)anthracene	57-97-6	(WETOX or CHOXD) fb CARBN; or CMBST	CMBST
U016	225-51-4	Benz[c]acridine	Benz(c)acridine	225-51-4	(WETOX or CHOXD) fb CARBN; or CMBST	CMBST
U157	56-49-5	Benz[j]aceanthrylene, 1,2-dihydro-3-methyl-	3-Methylcholanthrene	56-49-5	0.0055	15
U017	98-87-3	Benzal chloride	Benzal chloride	98-87-3	(WETOX or CHOXD) fb CARBN; or CMBST	CMBST
U192	23950-58-5	Benzamide,3,5-dichloro-N-(1,1-dimethyl-2-propynyl)-	Pronamide	23950-58-5	0.093	1.5
U012	62-53-3	Benzenamine	Aniline	62-53-3	0.81	14
U328	95-53-4	Benzenamine, 2-methyl-	o-Toluidine	95-53-4	CMBST; or CHOXD fb (BIODG or CARBN); or BIODG fb CARBN.	CMBST
U222	636-21-5	Benzenamine, 2-methyl-, hydrochloride	o-Toluidine hydrochloride	636-21-5	(WETOX or CHOXD) fb CARBN; or CMBST	CMBST
U181	99-55-8	Benzenamine, 2-methyl-5-nitro-	5-Nitro-o-toluidine	99-55-8	0.32	28
U014	492-80-8	Benzenamine, 4,4-carbonimidoylbis[N,N-dimethyl-	Auramine	492-80-8	(WETOX or CHOXD) fb CARBN; or CMBST	CMBST
U158	101-14-4	Benzenamine, 4,4-methylenebis[2-chloro-	4,4'-Methylene bis(2-chloroaniline)	101-14-4	0.50	30
U049	3165-93-3	Benzenamine, 4-chloro-2-methyl-,hydrochloride	4-Chloro-o-toluidine hydrochloride	3165-93-3	(WETOX or CHOXD) fb CARBN; or CMBST	CMBST
U353	106-49-0	Benzenamine, 4-methyl-	p-Toluidine	106-49-0	CMBST; or CHOXD fb (BIODG or CARBN); or BIODG fb CARBN.	CMBST
U093	60-11-7	Benzenamine, N,N-dimethyl-4-(phenylazo)-	p-Dimethylaminoazobenzene	60-11-7	0.13	CMBST
U019	71-43-2	Benzene	Benzene	71-43-2	0.14	10
U055	98-82-8	Benzene, (1-methylethyl)-	Cumene	98-82-8	(WETOX or CHOXD) fb CARBN; or CMBST	CMBST
U017	98-87-3	Benzene,	Benzal chloride	98-87-3	(WETOX or	CMBST

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		(dichloromethyl)-			CHOXD) fb CARBN; or CMBST	
U023	98-07-7	Benzene, (trichloromethyl)-	Benzotrichloride	98-07-7	CHOXD; CHRED; CARBN; BIODG; or CMBST	CHOXD; CHRED; or CMBST
U247	72-43-5	Benzene, 1,1-(2,2,2- trichloroethylidene)bis [4- methoxy-	Methoxychlor	72-43-5	0.25	0.18
U207	95-94-3	Benzene, 1,2,4,5- tetrachloro-	1,2,4,5- Tetrachlorobenzene	95-94-3	0.055	14
U070	95-50-1	Benzene, 1,2-dichloro-	o-Dichlorobenzene	95-50-1	0.088	6.0
U234	99-35-4	Benzene, 1,3,5- trinitro-	1,3,5-Trinitrobenzene	99-35-4	(WETOX or CHOXD) fb CARBN; or CMBST	CMBST
U071	541-73-1	Benzene, 1,3-dichloro-	m-Dichlorobenzene	541-73-1	0.036	6.0
U223	26471-62-5	Benzene, 1,3- diisocyanatomethyl-	Toluene diisocyanate	26471-62-5	CARBN; or CMBST	CMBST
U072	106-46-7	Benzene, 1,4-dichloro-	p-Dichlorobenzene	106-46-7	0.09	6.0
U030	101-55-3	Benzene, 1-bromo-4- phenoxy-	4-Bromophenyl phenyl ether	101-55-3	0.055	15
U105	121-14-2	Benzene, 1-methyl- 2,4-dinitro-	2,4-Dinitrotoluene	121-14-2	0.32	140
U106	606-20-2	Benzene, 2-methyl- 1,3-dinitro-	2,6-Dinitrotoluene	606-20-2	0.55	28
U037	108-90-7	Benzene, chloro-	Chlorobenzene	108-90-7	0.057	60
U239	1330-20-7	Benzene, dimethyl-	Xylenes-mixed isomers (sum of o-, m-, and p- xylene concentrations)	1330-20-7	0.32	30
U127	118-74-1	Benzene, hexachloro-	Hexachlorobenzene	118-74-1	0.055	10
U056	110-82-7	Benzene, hexahydro-	Cyclohexane	110-82-7	(WETOX or CHOXD) fb CARBN; or CMBST	CMBST
U220	108-88-3	Benzene, methyl-	Toluene	108-88-3	0.08	10
U169	98-95-3	Benzene, nitro-	Nitrobenzene	98-95-3	0.068	14
U183	608-93-5	Benzene, pentachloro-	Pentachlorobenzene	608-93-5	0.055	10
U185	82-68-8	Benzene, pentachloronitro-	Pentachloronitrobenzene	82-68-8	0.055	4.8
U061	50-29-3	Benzene,1,1-(2,2,2- trichloroethylidene)bis [4-chloro-	o,p'-DDT	789-02-6	0.0039	0.087
			p,p'-DDT	50-29-3	0.0039	0.087
			o,p'-DDD	53-19-0	0.023	0.087
			p,p'-DDD	72-54-8	0.023	0.087
			o,p'-DDE	3424-82-6	0.031	0.087
			p,p'-DDE	72-55-9	0.031	0.087
U060	72-54-8	Benzene,1,1-(2,2- dichloroethylidene)bis[ 4-chloro-	o,p'-DDD	53-19-0	0.023	0.087
			p,p'-DDD	72-54-8	0.023	0.087
U038	510-15-6	Benzenecetic acid,4- chloro-alpha- (4- chlorophenyl)-alpha- hydroxy-, ethyl ester	Chlorobenzilate	510-15-6	0.10	CMBST
U035	305-03-3	Benzenebutanoic acid, 4-[bis(2- chloroethyl)amino]-	Chlorambucil	305-03-3	(WETOX or CHOXD) fb CARBN; or CMBST	CMBST
U221	25376-45-8	Benzenediamine, ar- methyl-	Toluenediamine	25376-45-8	CARBN; or CMBST	CMBST
U020	98-09-9	Benzenesulfonic acid chloride	Benzenesulfonyl chloride	98-09-9	(WETOX or CHOXD) fb CARBN; or	CMBST

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					CMBST	
U020	98-09-9	Benzenesulfonyl chloride	Benzenesulfonyl chloride	98-09-9	(WETOX or CHOXD) fb CARBN; or CMBST	CMBST
U021	92-87-5	Benzidine	Benzidine	92-87-5	(WETOX or CHOXD) fb CARBN; or CMBST	CMBST
U022	50-32-8	Benzo[a]pyrene	Benzo(a)pyrene	50-32-8	0.061	3.4
U064	189-55-9	Benzo[rs]pentaphene	Dibenz(a,i)pyrene	189-55-9	(WETOX or CHOXD) fb CARBN; or CMBST	CMBST
U023	98-07-7	Benzotrichloride	Benzotrichloride	98-07-7	CHOXD; CHRED; CARBN; BIODG; or CMBST	CHOXD; CHRED; or CMBST
U047	91-58-7	beta-Chloronaphthalene	2-Chloronaphthalene	91-58-7	0.055	5.6
U168	91-59-8	beta-Naphthylamine	2-Naphthylamine	91-59-8	0.52	CMBST
U225	75-25-2	Bromoform	Bromoform (Tribromomethane)	75-25-2	0.63	15
U136	75-60-5	Cacodylic acid	Arsenic	7440-38-2	1.4	5.0 mg/L TCLP
U032	13765-19-0	Calcium chromate	Chromium (Total)	7440-47-3	2.77	0.60 mg/L TCLP
U280	101-27-9	Carbamic acid, (3-chlorophenyl)-, 4-chloro-2-butynyl ester	Barban	101-27-9	0.056	1.4
U409	23564-05-8	Carbamic acid, [1,2-phenylenebis(iminocarbonothioyl)] bis-, dimethyl ester	Thiophanate-methyl	23564-05-8	0.056	1.4
U271	17804-35-2	Carbamic acid, [1-[(butylamino)carbonyl]-1H-benzimidazol-2-yl]-, methyl ester	Benomyl	17804-35-2	0.056	1.4
U372	10605-21-7	Carbamic acid, 1H-benzimidazol-2-yl, methyl ester	Carbendazim	10605-21-7	0.056	1.4
U238	51-79-6	Carbamic acid, ethyl ester	Urethane (Ethyl carbamate)	51-79-6	(WETOX or CHOXD) fb CARBN; or CMBST	CMBST
U178	615-53-2	Carbamic acid, methylnitroso-, ethyl ester	N-Nitroso-N-methylurethane	615-53-2	(WETOX or CHOXD) fb CARBN; or CMBST	CMBST
U373	122-42-9	Carbamic acid, phenyl-, 1-methylethyl ester	Propham	122-42-9	0.056	1.4
U097	79-44-7	Carbamic chloride, dimethyl-	Dimethylcarbamoyl chloride	79-44-7	(WETOX or CHOXD) fb CARBN; or CMBST	CMBST
U114	111-54-6	Carbamodithioic acid, 1,2-ethanediybis-, salts & esters	Ethylenebisdithiocarbamic acid	111-54-6	(WETOX or CHOXD) fb CARBN; or CMBST	CMBST
U389	2303-17-5	Carbamothioic acid, bis(1-methylethyl)-, S-(2,3,3-trichloro-2-propenyl)ester	Triallate	2303-17-5	0.042	1.4
U062	2303-16-4	Carbamothioic acid, bis(1-methylethyl)-S-	Diallate	2303-16-4	(WETOX or CHOXD)	CMBST

## Part B of Schedule 2 – Hazardous Waste Chemical

		(2,3-dichloro-2-propenyl) ester			fb CARBN; or CMBST	
U387	52888-80-9	Carbamothioic acid, dipropyl-, S-(phenylmethyl) ester	Prosulfocarb	52888-80-9	0.042	1.4
U279	63-25-2	Carbaryl.	Carbaryl	63-25-2	0.006	0.14
U372	10605-21-7	Carbendazim	Carbendazim	10605-21-7	0.056	1.4
U367	1563-38-8	Carbofuran phenol	Carbofuran phenol	1563-38-8	0.056	1.4
U033	353-50-4	Carbon oxyfluoride	Carbon oxyfluoride	353-50-4	(WETOX or CHOXD) fb CARBN; or CMBST	CMBST
U211	56-23-5	Carbon tetrachloride	Carbon tetrachloride	56-23-5	0.057	6.0
U215	6533-73-9	Carbonic acid, dithallium(1+) salt	Thallium (measured in aqueous wastes only)	7440-28-0	1.4	RTHRM; or STABL
U033	353-50-4	Carbonic difluoride	Carbon oxyfluoride	353-50-4	(WETOX or CHOXD) fb CARBN; or CMBST	CMBST
U156	79-22-1	Carbonochloridic acid, methyl ester	Methyl chlorocarbonate	79-22-1	(WETOX or CHOXD) fb CARBN; or CMBST	CMBST
U034	75-87-6	Chloral	Trichloroacetaldehyde (Chloral)	75-87-6	(WETOX or CHOXD) fb CARBN; or CMBST	CMBST
U035	305-03-3	Chlorambucil	Chlorambucil	305-03-3	(WETOX or CHOXD) fb CARBN; or CMBST	CMBST
U036	57-74-9	Chlordane, alpha & gamma isomers	Chlordane (alpha and gamma isomers)	57-74-9	0.0033	0.26
U026	494-03-1	Chlornaphazin	Chlornaphazine	494-03-1	(WETOX or CHOXD) fb CARBN; or CMBST	CMBST
U037	108-90-7	Chlorobenzene	Chlorobenzene	108-90-7	0.057	60
U038	510-15-6	Chlorobenzilate	Chlorobenzilate	510-15-6	0.10	CMBST
U044	67-66-3	Chloroform	Chloroform	67-66-3	0.046	6.0
U046	107-30-2	Chloromethyl methyl ether	Chloromethyl methyl ether	107-30-2	(WETOX or CHOXD) fb CARBN; or CMBST	CMBST
U032	13765-19-0	Chromic acid H <sub>2</sub> CrO <sub>4</sub> , calcium salt	Chromium (Total)	7440-47-3	2.77	0.60 mg/L TCLP
U050	218-01-9	Chrysene	Chrysene	218-01-9	0.059	3.4
U051	N/A	Creosote	Naphthalene	91-20-3	0.059	5.6
			Pentachlorophenol	87-86-5	0.089	7.4
			Phenanthrene	85-01-8	0.059	5.6
			Pyrene	129-00-0	0.067	8.2
			Toluene	108-88-3	0.08	10
			Xylenes-mixed isomers (sum of o-, m-, and p-xylene concentrations)	1330-20-7	0.32	30
			Lead	7439-92-1	0.69	0.75 mg/L TCLP
U052	1319-77-3	Cresol (Cresylic acid)	o-Cresol	95-48-7	0.11	5.6
			m-Cresol (difficult to distinguish from p-cresol)	108-39-4	0.77	5.6
			p-Cresol (difficult to distinguish from m-cresol)	106-44-5	0.77	5.6

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			Cresol-mixed isomers (Cresylic acid) (sum of o-, m-, and p-cresol concentrations)	1319-77-3	0.88	11.2
U053	4170-30-3	Crotonaldehyde	Crotonaldehyde	4170-30-3	(WETOX or CHOXD) fb CARBN; or CMBST	CMBST
U055	98-82-8	Cumene	Cumene	98-82-8	(WETOX or CHOXD) fb CARBN; or CMBST	CMBST
U246	506-68-3	Cyanogen bromide (CN)Br	Cyanogen bromide	506-68-3	CHOXD; WETOX; or CMBST	CHOXD; WETOX; or CMBST
U056	110-82-7	Cyclohexane	Cyclohexane	110-82-7	(WETOX or CHOXD) fb CARBN; or CMBST	CMBST
U129	58-89-9	Cyclohexane, 1,2,3,4,5,6-hexachloro-, (1alpha,2alpha,3beta,4alpha,5alpha,6 beta)-	alpha-BHC	319-84-6	0.00014	0.066
			beta-BHC	319-85-7	0.00014	0.066
			delta-BHC	319-86-8	0.023	0.066
			gamma-BHC (Lindane)	58-89-9	0.0017	0.066
U057	108-94-1	Cyclohexanone	Cyclohexanone	108-94-1	0.36	CMBST or 0.75 mg/L TCLP
U058	50-18-0	Cyclophosphamide	Cyclophosphamide	50-18-0	CARBON; or CMBST	CMBST
U059	20830-81-3	Daunomycin	Daunomycin	20830-81-3	(WETOX or CHOXD) fb CARBN; or CMBST	CMBST
U060	72-54-8	DDD	o,p'-DDD	53-19-0	0.023	0.087
			p,p'-DDD	72-54-8	0.023	0.087
U061	50-29-3	DDT	o,p'-DDT	789-02-6	0.0039	0.087
			p,p'-DDT	50-29-3	0.0039	0.087
			o,p'-DDD	53-19-0	0.023	0.087
			p,p'-DDD	72-54-8	0.023	0.087
			o,p'-DDE	3424-82-6	0.031	0.087
			p,p'-DDE	72-55-9	0.031	0.087
U206	18883-66-4	D-Glucose,2-deoxy-2-[[[(methylnitrosoamino)-carbonyl]amino]-	Streptozotocin	18883-66-4	(WETOX or CHOXD) fb CARBN; or CMBST	CMBST
U062	2303-16-4	Diallate	Diallate	2303-16-4	(WETOX or CHOXD) fb CARBN; or CMBST	CMBST
U063	53-70-3	Dibenz[a,h]anthracene	Dibenz(a,h)anthracene	53-70-3	0.055	8.2
U064	189-55-9	Dibenzo[a,i]pyrene	Dibenz(a,i)pyrene	189-55-9	(WETOX or CHOXD) fb CARBN; or CMBST	CMBST
U069	84-74-2	Dibutyl phthalate	Di-n-butyl phthalate	84-74-2	0.057	28
U075	75-71-8	Dichlorodifluoromethane	Dichlorodifluoromethane	75-71-8	0.23	7.2
U025	111-44-4	Dichloroethyl ether	bis(2-Chloroethyl)ether	111-44-4	0.033	6.0
U027	108-60-1	Dichloroisopropyl ether	bis(2-Chloroisopropyl)ether	39638-32-9	0.055	7.2
U024	111-91-1	Dichloromethoxy ethane	bis(2-Chloroethoxy)methane	111-91-1	0.036	7.2
U088	84-66-2	Diethyl phthalate	Diethyl phthalate	84-66-2	0.20	28
U395	5952-26-1	Diethylene glycol, dicarbamate	Diethylene glycol, dicarbamate	5952-26-1	BIODG; CARBN;	CMBST or 1.4

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					CHOXD; CMBST or 0.056	
U028	117-81-7	Diethylhexyl phthalate	bis(2-Ethylhexyl) phthalate	117-81-7	0.28	28
U089	56-53-1	Diethyl stilbestrol	Diethyl stilbestrol	56-53-1	(WETOX or CHOXD) fb CARBN; or CMBST	CMBST
U090	94-58-6	Dihydrosafrole	Dihydrosafrole	94-58-6	(WETOX or CHOXD) fb CARBN; or CMBST	CMBST
U102	131-11-3	Dimethyl phthalate	Dimethyl phthalate	131-11-3	0.047	28
U103	77-78-1	Dimethyl sulfate	Dimethyl sulfate	77-78-1	CHOXD; CHRED; CARBN; BIODG; or CMBST	CHOXD; CHRED; or CMBST
U092	124-40-3	Dimethylamine	Dimethylamine	124-40-3	(WETOX or CHOXD) fb CARBN; or CMBST	CMBST
U097	79-44-7	Dimethylcarbamoyl chloride	Dimethylcarbamoyl chloride	79-44-7	(WETOX or CHOXD) fb CARBN; or CMBST	CMBST
U107	117-84-0	Di-n-octyl phthalate	Di-n-octyl phthalate	117-84-0	0.017	28
U111	621-64-7	Di-n-propylnitrosamine	Di-n-propylnitrosamine	621-64-7	0.40	14
U110	142-84-7	Dipropylamine	Dipropylamine	142-84-7	(WETOX or CHOXD) fb CARBN; or CMBST	CMBST
U041	106-89-8	Epichlorohydrin	Epichlorohydrin (1-Chloro-2,3-epoxypropane)	106-89-8	(WETOX or CHOXD) fb CARBN; or CMBST	CMBST
U001	75-07-0	Ethanal	Acetaldehyde	75-07-0	(WETOX or CHOXD) fb CARBN; or CMBST	CMBST
U404	121-44-8	Ethanamine, N,N-diethyl-	Triethylamine	121-44-8	0.081	1.5
U174	55-18-5	Ethanamine, N-ethyl-N-nitroso-	N-Nitrosodiethylamine	55-18-5	0.40	28
U208	630-20-6	Ethane, 1,1,1,2-tetrachloro-	1,1,1,2-Tetrachloroethane	630-20-6	0.057	6.0
U226	71-55-6	Ethane, 1,1,1-trichloro-	1,1,1-Trichloroethane	71-55-6	0.054	6.0
U209	79-34-5	Ethane, 1,1,2,2-tetrachloro-	1,1,2,2-Tetrachloroethane	79-34-5	0.057	6.0
U227	79-00-5	Ethane, 1,1,2-trichloro-	1,1,2-Trichloroethane	79-00-5	0.054	6.0
U024	111-91-1	Ethane, 1,1'-[methylenebis(oxy)]bis[2-chloro-	bis(2-Chloroethoxy)methane	111-91-1	0.036	7.2
U076	75-34-3	Ethane, 1,1-dichloro-	1,1-Dichloroethane	75-34-3	0.059	6.0
U117	60-29-7	Ethane, 1,1'-oxybis-	Ethyl ether	60-29-7	0.12	160
U025	111-44-4	Ethane, 1,1'-oxybis[2-chloro-	bis(2-Chloroethyl)ether	111-44-4	0.033	6.0
U067	106-93-4	Ethane, 1,2-dibromo-	Ethylene dibromide (1,2-Dibromoethane)	106-93-4	0.028	15
U077	107-06-2	Ethane, 1,2-dichloro-	1,2-Dichloroethane	107-06-2	0.21	6.0
U131	67-72-1	Ethane, hexachloro-	Hexachloroethane	67-72-1	0.055	30

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U184	76-01-7	Ethane, pentachloro-	Pentachloroethane	76-01-7	(WETOX or CHOXD) fb CARBN; or CMBST or 0.055	CMBST or 6.0
U218	62-55-5	Ethanethioamide	Thioacetamide	62-55-5	(WETOX or CHOXD) fb CARBN; or CMBST	CMBST
U394	30558-43-1	Ethanimidothioic acid, 2-(dimethylamino)-N-hydroxy-2-oxo-,methyl ester	A2213	30558-43-1	BIODG; CARBN; CHOXD; CMBST or 0.042	CMBST or 1.4
U410	59669-26-0	Ethanimidothioic acid, N,N'-[thiobis[(methylimino) carbonyloxy]]bi s-, dimethyl ester	Thiodicarb	59669-26-0	0.019	1.4
U173	1116-54-7	Ethanol, 2,2'-(nitrosoimino)bis-	N-Nitrosodiethanolamine	1116-54-7	(WETOX or CHOXD) fb CARBN; or CMBST	CMBST
U395	5952-26-1	Ethanol, 2,2'-oxybis-, dicarbamate	Diethylene glycol, dicarbamate	5952-26-1	BIODG; CARBN; CHOXD; CMBST or 0.056	CMBST or 1.4
U359	110-80-5	Ethanol, 2-ethoxy-	2-Ethoxyethanol	110-80-5	CMBST; or CHOXD fb (BIODG or CARBN); or BIODG fb CARBN.	CMBST
U004	98-86-2	Ethanone, 1-phenyl-	Acetophenone	98-86-2	0.010	9.7
U042	110-75-8	Ethene, (2-chloroethoxy)-	2-Chloroethyl vinyl ether	110-75-8	0.062	CMBST
U078	75-35-4	Ethene, 1,1-dichloro-	1,1-Dichloroethylene	75-35-4	0.025	6.0
U079	156-60-5	Ethene, 1,2-dichloro-, (E)-	trans-1,2-Dichloroethylene	156-60-5	0.054	30
U043	75-01-4	Ethene, chloro-	Vinyl chloride	75-01-4	0.27	6.0
U210	127-18-4	Ethene, tetrachloro-	Tetrachloroethylene	127-18-4	0.056	6.0
U228	79-01-6	Ethene, trichloro-	Trichloroethylene	79-01-6	0.054	6.0
U112	141-78-6	Ethyl acetate	Ethyl acetate	141-78-6	0.34	33
U113	140-88-5	Ethyl acrylate	Ethyl acrylate	140-88-5	(WETOX or CHOXD) fb CARBN; or CMBST	CMBST
U238	51-79-6	Ethyl carbamate (urethane)	Urethane (Ethyl carbamate)	51-79-6	(WETOX or CHOXD) fb CARBN; or CMBST	CMBST
U117	60-29-7	Ethyl ether	Ethyl ether	60-29-7	0.12	160
U118	97-63-2	Ethyl methacrylate	Ethyl methacrylate	97-63-2	0.14	160
U119	62-50-0	Ethyl methanesulfonate	Ethyl methane sulfonate	62-50-0	(WETOX or CHOXD) fb CARBN; or CMBST	CMBST
U067	106-93-4	Ethylene dibromide	Ethylene dibromide (1,2-Dibromoethane)	106-93-4	0.028	15
U077	107-06-2	Ethylene dichloride	1,2-Dichloroethane	107-06-2	0.21	6.0
U359	110-80-5	Ethylene glycol monoethyl ether	2-Ethoxyethanol	110-80-5	CMBST; or CHOXD fb (BIODG or CARBN); or BIODG fb CARBN.	CMBST
U115	75-21-8	Ethylene oxide	Ethylene oxide	75-21-8	(WETOX or CHOXD; or	CHOXD; or



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					CHOXD) fb CARBN; or CMBST or 0.12	CMBST
U114	111-54-6	Ethylenebisdithiocarbamic acid, salts & esters	Ethylenebisdithiocarbamic acid	111-54-6	(WETOX or CHOXD) fb CARBN; or CMBST	CMBST
U116	96-45-7	Ethylenethiourea	Ethylene thiourea	96-45-7	(WETOX or CHOXD) fb CARBN; or CMBST	CMBST
U076	75-34-3	Ethylidene dichloride	1,1-Dichloroethane	75-34-3	0.059	6.0
U120	206-44-0	Fluoranthene	Fluoranthene	206-44-0	0.068	3.4
U122	50-00-0	Formaldehyde	Formaldehyde	50-00-0	(WETOX or CHOXD) fb CARBN; or CMBST	CMBST
U123	64-18-6	Formic acid	Formic acid	64-18-6	(WETOX or CHOXD) fb CARBN; or CMBST	CMBST
U124	110-00-9	Furan	Furan	110-00-9	(WETOX or CHOXD) fb CARBN; or CMBST	CMBST
U213	109-99-9	Furan, tetrahydro-	Tetrahydrofuran	109-99-9	(WETOX or CHOXD) fb CARBN; or CMBST	CMBST
U125	98-01-1	Furfural	Furfural	98-01-1	(WETOX or CHOXD) fb CARBN; or CMBST	CMBST
U124	110-00-9	Furfuran	Furan	110-00-9	(WETOX or CHOXD) fb CARBN; or CMBST	CMBST
U206	18883-66-4	Glucopyranose,2-deoxy-2-(3-methyl-3-nitrosoureido)-, D-	Streptozotocin	18883-66-4	(WETOX or CHOXD) fb CARBN; or CMBST	CMBST
U126	765-34-4	Glycidylaldehyde	Glycidyaldehyde	765-34-4	(WETOX or CHOXD) fb CARBN; or CMBST	CMBST
U163	70-25-7	Guanidine, N-methyl-N'-nitro-N-nitroso-	N-Methyl N'-nitro N-nitrosoguanidine	70-25-7	(WETOX or CHOXD) fb CARBN; or CMBST	CMBST
U127	118-74-1	Hexachlorobenzene	Hexachlorobenzene	118-74-1	0.055	10
U128	87-68-3	Hexachlorobutadiene	Hexachlorobutadiene	87-68-3	0.055	5.6
U130	77-47-4	Hexachlorocyclopentadiene	Hexachlorocyclopentadiene	77-47-4	0.057	2.4
U131	67-72-1	Hexachloroethane	Hexachloroethane	67-72-1	0.055	30
U132	70-30-4	Hexachlorophene	Hexachlorophene	70-30-4	(WETOX or CHOXD) fb CARBN; or CMBST	CMBST
U243	1888-71-7	Hexachloropropene	Hexachloropropylene	1888-71-7	0.035	30
U133	302-01-2	Hydrazine	Hydrazine	302-01-2	CHOXD; CHRED; CARBN; BIODG; or CMBST	CHOXD; CHRED; or CMBST
U098	57-14-7	Hydrazine, 1,1-	1,1-Dimethylhydrazine	57-14-7	CHOXD;	CHOXD; CHRED;

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		dimethyl-			CHRED; CARBN; BIODG; or CMBST	or CMBST
U086	1615-80-1	Hydrazine, 1,2-diethyl-	N,N'-Diethylhydrazine	1615-80-1	CHOXD; CHRED; CARBN; BIODG; or CMBST	CHOXD; CHRED; or CMBST
U099	540-73-8	Hydrazine, 1,2-dimethyl-	1,2-Dimethylhydrazine	540-73-8	CHOXD; CHRED; CARBN; BIODG; or CMBST	CHOXD; CHRED; or CMBST
U109	122-66-7	Hydrazine, 1,2-diphenyl-	1,2-Diphenylhydrazine	122-66-7	CHOXD; CHRED; CARBN; BIODG; CMBST or 0.087	CHOXD; CHRED; or CMBST
U134	7664-39-3	Hydrofluoric acid	Fluoride (measured in aqueous wastes only)	16984-48-8	35	ADGAS fb NEUTR; or NEUTR
U134	7664-39-3	Hydrogen fluoride	Fluoride (measured in aqueous wastes only)	16984-48-8	35	ADGAS fb NEUTR; or NEUTR
U135	7783-06-4	Hydrogen sulfide	Hydrogen Sulfide	7783-06-4	CHOXD; CHRED; or CMBST	CHOXD; CHRED; or CMBST
U135	7783-06-4	Hydrogen sulfide H2S	Hydrogen Sulfide	7783-06-4	CHOXD; CHRED; or CMBST	CHOXD; CHRED; or CMBST
U096	80-15-9	Hydroperoxide, 1-methyl-1-phenylethyl-	alpha, alpha-Dimethyl benzyl hydroperoxide	80-15-9	CHOXD; CHRED; CARBN; BIODG; or CMBST	CHOXD; CHRED; or CMBST
U137	193-39-5	Indeno(1,2,3-cd)pyrene	Indeno(1,2,3-cd)pyrene	193-39-5	0.0055	3.4
U140	78-83-1	Isobutyl alcohol	Isobutyl alcohol	78-83-1	5.6	170
U141	120-58-1	Isosafrole	Isosafrole	120-58-1	0.081	2.6
U142	143-50-0	Kepone	Kepone	143-50-0	0.0011	0.13
U143	303-34-4	Lasiocarpine	Lasiocarpine	303-34-4	(WETOX or CHOXD) fb CARBN; or CMBST	CMBST
U144	301-04-2	Lead acetate	Lead	7439-92-1	0.69	0.75 mg/L TCLP
U145	7446-27-7	Lead phosphate	Lead	7439-92-1	0.69	0.75 mg/L TCLP
U146	1335-32-6	Lead subacetate	Lead	7439-92-1	0.69	0.75 mg/L TCLP
U146	1335-32-6	Lead, bis(acetato-O)tetrahydroxytri-	Lead	7439-92-1	0.69	0.75 mg/L TCLP
U129	58-89-9	Lindane	alpha-BHC	319-84-6	0.00014	0.066
			beta-BHC	319-85-7	0.00014	0.066
			delta-BHC	319-86-8	0.023	0.066
			gamma-BHC (Lindane)	58-89-9	0.0017	0.066
U150	148-82-3	L-Phenylalanine, 4-[bis(2-chloroethyl)amino]-	Melphalan	148-82-3	(WETOX or CHOXD) fb CARBN; or CMBST	CMBST
U015	115-02-6	L-Serine, diazoacetate (ester)	Azaserine	115-02-6	(WETOX or CHOXD) fb CARBN; or CMBST	CMBST
U147	108-31-6	Maleic anhydride	Maleic anhydride	108-31-6	(WETOX or CHOXD) fb CARBN; or CMBST	CMBST
U148	123-33-1	Maleic hydrazide	Maleic hydrazide	123-33-1	(WETOX or	CMBST

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					CHOXD) fb CARBN; or CMBST																					
U149	109-77-3	Malononitrile	Malononitrile	109-77-3	(WETOX or CHOXD) fb CARBN; or CMBST	CMBST																				
U071	541-73-1	m-Dichlorobenzene	m-Dichlorobenzene	541-73-1	0.036	6.0																				
U150	148-82-3	Melphalan	Melphalan	148-82-3	(WETOX or CHOXD) fb CARBN; or CMBST	CMBST																				
U151	7439-97-6	Mercury	<b>Treatment Subcategory 1</b> U151 (mercury) non-aqueous wastes that contain greater than or equal to 260 mg/ kg total mercury: <table><tr><td>Mercury</td><td>7439-97-6</td><td>NA</td><td>RMERC</td></tr></table> <b>Treatment Subcategory 2</b> U151 (mercury) non-aqueous wastes that contain less than 260 mg/kg total mercury and that are residues from RMERC only: <table><tr><td>Mercury</td><td>7439-97-6</td><td>NA</td><td>0.20 mg/L TCLP</td></tr></table> <b>Treatment Subcategory 3</b> U151 (mercury) non-aqueous wastes that contain less than 260 mg/kg total mercury and that are not residues from RMERC: <table><tr><td>Mercury</td><td>7439-97-6</td><td>NA</td><td>0.025 mg/L TCLP</td></tr></table> <b>Treatment Subcategory 4</b> All U151 (mercury) aqueous wastes: <table><tr><td>Mercury</td><td>7439-97-6</td><td>0.15</td><td>NA</td></tr></table> <b>Treatment Subcategory 5</b> Elemental Mercury Contaminated with Radioactive Materials: <table><tr><td>Mercury</td><td>7439-97-6</td><td>NA</td><td>AMLGM</td></tr></table>				Mercury	7439-97-6	NA	RMERC	Mercury	7439-97-6	NA	0.20 mg/L TCLP	Mercury	7439-97-6	NA	0.025 mg/L TCLP	Mercury	7439-97-6	0.15	NA	Mercury	7439-97-6	NA	AMLGM
Mercury	7439-97-6	NA	RMERC																							
Mercury	7439-97-6	NA	0.20 mg/L TCLP																							
Mercury	7439-97-6	NA	0.025 mg/L TCLP																							
Mercury	7439-97-6	0.15	NA																							
Mercury	7439-97-6	NA	AMLGM																							
U152	126-98-7	Methacrylonitrile	Methacrylonitrile	126-98-7	0.24	84																				
U092	124-40-3	Methanamine, N-methyl-	Dimethylamine	124-40-3	(WETOX or CHOXD) fb CARBN; or CMBST	CMBST																				
U029	74-83-9	Methane, bromo-	Methyl bromide (Bromomethane)	74-83-9	0.11	15																				
U045	74-87-3	Methane, chloro-	Chloromethane (Methyl chloride)	74-87-3	0.19	30																				
U046	107-30-2	Methane, chloromethoxy-	Chloromethyl methyl ether	107-30-2	(WETOX or CHOXD) fb CARBN; or CMBST	CMBST																				
U068	74-95-3	Methane, dibromo-	Dibromomethane	74-95-3	0.11	15																				
U080	75-09-2	Methane, dichloro-	Methylene chloride	75-09-2	0.089	30																				
U075	75-71-8	Methane, dichlorodifluoro-	Dichlorodifluoromethane	75-71-8	0.23	7.2																				
U138	74-88-4	Methane, iodo-	Iodomethane	74-88-4	0.19	65																				
U211	56-23-5	Methane, tetrachloro-	Carbon tetrachloride	56-23-5	0.057	6.0																				
U225	75-25-2	Methane, tribromo-	Bromoform (Tribromomethane)	75-25-2	0.63	15																				
U044	67-66-3	Methane, trichloro-	Chloroform	67-66-3	0.046	6.0																				
U121	75-69-4	Methane, trichlorofluoro-	Trichlorofluoromethane	75-69-4	0.02	30																				
U119	62-50-0	Methanesulfonic acid, ethyl ester	Ethyl methane sulfonate	62-50-0	(WETOX or CHOXD) fb CARBN; or CMBST	CMBST																				
U153	74-93-1	Methanethiol	Methanethiol	74-93-1	(WETOX or CHOXD) fb CARBN; or CMBST	CMBST																				
U154	67-56-1	Methanol	Methanol	67-56-1	(WETOX or CHOXD)	CMBST or 0.75 mg/L TCLP																				

## Part B of Schedule 2 – Hazardous Waste Chemical

					fb CARBN; or CMBST or 5.6	
U155	91-80-5	Methapyrilene	Methapyrilene	91-80-5	0.081	1.5
U247	72-43-5	Methoxychlor	Methoxychlor	72-43-5	0.25	0.18
U154	67-56-1	Methyl alcohol	Methanol	67-56-1	(WETOX or CHOXD) fb CARBN; or CMBST or 5.6	CMBST or 0.75 mg/L TCLP
U029	74-83-9	Methyl bromide	Methyl bromide (Bromomethane)	74-83-9	0.11	15
U045	74-87-3	Methyl chloride	Chloromethane (Methyl chloride)	74-87-3	0.19	30
U156	79-22-1	Methyl chlorocarbonate	Methyl chlorocarbonate	79-22-1	(WETOX or CHOXD) fb CARBN; or CMBST	CMBST
U226	71-55-6	Methyl chloroform	1,1,1-Trichloroethane	71-55-6	0.054	6.0
U159	78-93-3	Methyl ethyl ketone (MEK)	Methyl ethyl ketone	78-93-3	0.28	36
U160	1338-23-4	Methyl ethyl ketone peroxide	Methyl ethyl ketone peroxide	1338-23-4	CHOXD; CHRED; CARBN; BIODG; or CMBST	CHOXD; CHRED; or CMBST
U138	74-88-4	Methyl iodide	Iodomethane	74-88-4	0.19	65
U161	108-10-1	Methyl isobutyl ketone	Methyl isobutyl ketone	108-10-1	0.14	33
U162	80-62-6	Methyl methacrylate	Methyl methacrylate	80-62-6	0.14	160
U068	74-95-3	Methylene bromide	Dibromomethane	74-95-3	0.11	15
U080	75-09-2	Methylene chloride	Methylene chloride	75-09-2	0.089	30
U164	56-04-2	Methylthiouracil	Methylthiouracil	56-04-2	(WETOX or CHOXD) fb CARBN; or CMBST	CMBST
U010	50-07-7	Mitomycin C	Mitomycin C	50-07-7	(WETOX or CHOXD) fb CARBN; or CMBST	CMBST
U163	70-25-7	MNNG	N-Methyl N'-nitro N- nitrosoguanidine	70-25-7	(WETOX or CHOXD) fb CARBN; or CMBST	CMBST
U086	1615-80-1	N,N'-Diethylhydrazine	N,N'-Diethylhydrazine	1615-80-1	CHOXD; CHRED; CARBN; BIODG; or CMBST	CHOXD; CHRED; or CMBST
U026	494-03-1	Naphthalenamine, N,N'-bis(2- chloroethyl)-	Chlornaphazine	494-03-1	(WETOX or CHOXD) fb CARBN; or CMBST	CMBST
U165	91-20-3	Naphthalene	Naphthalene	91-20-3	0.059	5.6
U047	91-58-7	Naphthalene, 2-chloro-	2-Chloronaphthalene	91-58-7	0.055	5.6
U031	71-36-3	n-Butyl alcohol	n-Butyl alcohol	71-36-3	5.6	2.6
U217	10102-45-1	Nitric acid, thallium(1+) salt	Thallium (measured in aqueous wastes only)	7440-28-0	1.4	RTHRM; or STABL
U169	98-95-3	Nitrobenzene	Nitrobenzene	98-95-3	0.068	14
U173	1116-54-7	N- Nitrosodiethanolamine	N-Nitrosodiethanolamine	1116-54-7	(WETOX or CHOXD) fb CARBN; or CMBST	CMBST
U174	55-18-5	N-Nitrosodiethylamine	N-Nitrosodiethylamine	55-18-5	0.40	28
U172	924-16-3	N-Nitroso-di-n- butylamine	N-Nitroso-di-n- butylamine	924-16-3	0.04	17
U176	759-73-9	N-Nitroso-N-ethylurea	N-Nitroso-N-ethylurea	759-73-9	(WETOX or	CMBST

## Part B of Schedule 2 – Hazardous Waste Chemical

					CHOXD) fb CARBN; or CMBST	
U177	684-93-5	N-Nitroso-N-methylurea	N-Nitroso-N-methylurea	684-93-5	(WETOX or CHOXD) fb CARBN; or CMBST	CMBST
U178	615-53-2	N-Nitroso-N-methylurethane	N-Nitroso-N-methylurethane	615-53-2	(WETOX or CHOXD) fb CARBN; or CMBST	CMBST
U179	100-75-4	N-Nitrosopiperidine	N-Nitrosopiperidine	100-75-4	0.013	35
U180	930-55-2	N-Nitrosopyrrolidine	N-Nitrosopyrrolidine	930-55-2	0.013	35
U194	107-10-8	n-Propylamine	n-Propylamine	107-10-8	(WETOX or CHOXD) fb CARBN; or CMBST	CMBST
U087	3288-58-2	O,O-Diethyl S-methyl dithiophosphate	O,O-Diethyl S-methyldithiophosphate	3288-58-2	CARBAN; or CMBST	CMBST
U048	95-57-8	o-Chlorophenol	2-Chlorophenol	95-57-8	0.044	5.7
U070	95-50-1	o-Dichlorobenzene	o-Dichlorobenzene	95-50-1	0.088	6.0
U328	95-53-4	o-Toluidine	o-Toluidine	95-53-4	CMBST; or CHOXD fb (BIODG or CARBN); or BIODG fb CARBN.	CMBST
U222	636-21-5	o-Toluidine hydrochloride	o-Toluidine hydrochloride	636-21-5	(WETOX or CHOXD) fb CARBN; or CMBST	CMBST
U115	75-21-8	Oxirane	Ethylene oxide	75-21-8	(WETOX or CHOXD) fb CARBN; or CMBST or 0.12	CHOXD; or CMBST
U041	106-89-8	Oxirane, (chloromethyl)-	Epichlorohydrin (1-Chloro-2,3-epoxypropane)	106-89-8	(WETOX or CHOXD) fb CARBN; or CMBST	CMBST
U126	765-34-4	Oxiranecarboxyaldehyde	Glycidyaldehyde	765-34-4	(WETOX or CHOXD) fb CARBN; or CMBST	CMBST
U182	123-63-7	Paraldehyde	Paraldehyde	123-63-7	(WETOX or CHOXD) fb CARBN; or CMBST	CMBST
U197	106-51-4	p-Benzoquinone	p-Benzoquinone	106-51-4	(WETOX or CHOXD) fb CARBN; or CMBST	CMBST
U039	59-50-7	p-Chloro-m-cresol	p-Chloro-m-cresol	59-50-7	0.018	14
U072	106-46-7	p-Dichlorobenzene	p-Dichlorobenzene	106-46-7	0.09	6.0
U093	60-11-7	p-Dimethylaminoazobenzene	p-Dimethylaminoazobenzene	60-11-7	0.13	CMBST
U183	608-93-5	Pentachlorobenzene	Pentachlorobenzene	608-93-5	0.055	10
U184	76-01-7	Pentachloroethane	Pentachloroethane	76-01-7	(WETOX or CHOXD) fb CARBN; or CMBST or 0.055	CMBST or 6.0
U185	82-68-8	Pentachloronitrobenzene (PCNB)	Pentachloronitrobenzene	82-68-8	0.055	4.8
See F027	87-86-5	Pentachlorophenol	See F027 in Schedule 1			
U161	108-10-1	Pentanol, 4-methyl-	Methyl isobutyl ketone	108-10-1	0.14	33

## Part B of Schedule 2 – Hazardous Waste Chemical

U187	62-44-2	Phenacetin	Phenacetin	62-44-2	0.081	16
U188	108-95-2	Phenol	Phenol	108-95-2	0.039	6.2
U411	114-26-1	Phenol, 2-(1-methylethoxy)-, methylcarbamate	Propoxur	114-26-1	0.056	1.4
See F027	58-90-2	Phenol, 2,3,4,6-tetrachloro-	See F027 in Schedule 1			
See F027	95-95-4	Phenol, 2,4,5-trichloro-	See F027 in Schedule 1			
See F027	88-06-2	Phenol, 2,4,6-trichloro-	See F027 in Schedule 1			
U081	120-83-2	Phenol, 2,4-dichloro-	2,4-Dichlorophenol	120-83-2	0.044	14
U101	105-67-9	Phenol, 2,4-dimethyl-	2,4-Dimethylphenol	105-67-9	0.036	14
U082	87-65-0	Phenol, 2,6-dichloro-	2,6-Dichlorophenol	87-65-0	0.044	14
U048	95-57-8	Phenol, 2-chloro-	2-Chlorophenol	95-57-8	0.044	5.7
U089	56-53-1	Phenol, 4,4'-(1,2-diethyl-1,2-ethenediyl)bis-, (E)-	Diethyl stilbestrol	56-53-1	(WETOX or CHOXD) fb CARBN; or CMBST	CMBST
U039	59-50-7	Phenol, 4-chloro-3-methyl-	p-Chloro-m-cresol	59-50-7	0.018	14
U170	100-02-7	Phenol, 4-nitro-	p-Nitrophenol	100-02-7	0.12	29
U052	1319-77-3	Phenol, methyl-	o-Cresol	95-48-7	0.11	5.6
			m-Cresol (difficult to distinguish from p-cresol)	108-39-4	0.77	5.6
			p-Cresol (difficult to distinguish from m-cresol)	106-44-5	0.77	5.6
			Cresol-mixed isomers (Cresylic acid) (sum of o-, m-, and p-cresol concentrations)	1319-77-3	0.88	11.2
See F027	87-86-5	Phenol, pentachloro-	See F027 in Schedule 1			
U132	70-30-4	Phenol, 2,2'-methylenebis[3,4,6-trichloro-	Hexachlorophene	70-30-4	(WETOX or CHOXD) fb CARBN; or CMBST	CMBST
U145	7446-27-7	Phosphoric acid, lead(2+) salt (2:3)	Lead	7439-92-1	0.69	0.75 mg/L TCLP
U087	3288-58-2	Phosphorodithioic acid, O,O-diethyl S-methyl ester	O,O-Diethyl S-methyldithiophosphate	3288-58-2	CARBN; or CMBST	CMBST
U189	1314-80-3	Phosphorus sulfide	Phosphorus sulfide	1314-80-3	CHOXD; CHRED; or CMBST	CHOXD; CHRED; or CMBST
U190	85-44-9	Phthalic anhydride	Phthalic anhydride (measured as Phthalic acid or Terephthalic acid)	100-21-0; 85-44-9	0.055	28
U179	100-75-4	Piperidine, 1-nitroso-	N-Nitrosopiperidine	100-75-4	0.013	35
U170	100-02-7	p-Nitrophenol	p-Nitrophenol	100-02-7	0.12	29
U192	23950-58-5	Pronamide	Pronamide	23950-58-5	0.093	1.5
U066	96-12-8	Propane, 1,2-dibromo-3-chloro-	1,2-Dibromo-3-chloropropane	96-12-8	0.11	15
U083	78-87-5	Propane, 1,2-dichloro-	1,2-Dichloropropane	78-87-5	0.85	18
U027	108-60-1	Propane, 2,2'-oxybis[2-chloro-	bis(2-Chloroisopropyl)ether	39638-32-9	0.055	7.2
U171	79-46-9	Propane, 2-nitro-	2-Nitropropane	79-46-9	(WETOX or CHOXD) fb CARBN; or CMBST	CMBST
U149	109-77-3	Propanedinitrile	Malononitrile	109-77-3	(WETOX or CHOXD) fb CARBN; or CMBST	CMBST

## Part B of Schedule 2 – Hazardous Waste Chemical

See F027	93-72-1	Propanoic acid, 2-(2,4,5-0 trichlorophenoxy)-	See F027 in Schedule 1			
U373	122-42-9	Propham	Propham	122-42-9	0.056	1.4
U411	114-26-1	Propoxur	Propoxur	114-26-1	0.056	1.4
U083	78-87-5	Propylene dichloride	1,2-Dichloropropane	78-87-5	0.85	18
U387	52888-80-9	Prosulfocarb	Prosulfocarb	52888-80-9	0.042	1.4
U353	106-49-0	p-Toluidine	p-Toluidine	106-49-0	CMBST; or CHOXD fb (BIODG or CARBN); or BIODG fb CARBN.	CMBST
U196	110-86-1	Pyridine	Pyridine	110-86-1	0.014	16
U191	109-06-8	Pyridine, 2-methyl-	2-Picoline	109-06-8	(WETOX or CHOXD) fb CARBN; or CMBST	CMBST
U180	930-55-2	Pyrrolidine, 1-nitroso-	N-Nitrosopyrrolidine	930-55-2	0.013	35
U200	50-55-5	Reserpine	Reserpine	50-55-5	(WETOX or CHOXD) fb CARBN; or CMBST	CMBST
U201	108-46-3	Resorcinol	Resorcinol	108-46-3	(WETOX or CHOXD) fb CARBN; or CMBST	CMBST
U202	81-07-2	Saccharin, & salts	Saccharin	81-07-2	(WETOX or CHOXD) fb CARBN; or CMBST	CMBST
U203	94-59-7	Safrole	Safrole	94-59-7	0.081	22
U204	7783-00-8	Selenious acid	Selenium	7782-49-2	0.82	5.7 mg/L TCLP
U204	7783-00-8	Selenium dioxide	Selenium	7782-49-2	0.82	5.7 mg/L TCLP
U205	7488-56-4	Selenium sulfide	Selenium	7782-49-2	0.82	5.7 mg/L TCLP
U205	7488-56-4	Selenium sulfide SeS2	Selenium	7782-49-2	0.82	5.7 mg/L TCLP
See F027	93-72-1	Silvex (2,4,5-TP)	See F027 in Schedule 1			
U206	18883-66-4	Streptozotocin	Streptozotocin	18883-66-4	(WETOX or CHOXD) fb CARBN; or CMBST	CMBST
U189	1314-80-3	Sulfur phosphide	Phosphorus sulfide	1314-80-3	CHOXD; CHRED; or CMBST	CHOXD; CHRED; or CMBST
U103	77-78-1	Sulfuric acid, dimethyl ester	Dimethyl sulfate	77-78-1	CHOXD; CHRED; CARBN; BIODG; or CMBST	CHOXD; CHRED; or CMBST
U210	127-18-4	Tetrachloroethylene	Tetrachloroethylene	127-18-4	0.056	6.0
U213	109-99-9	Tetrahydrofuran	Tetrahydrofuran	109-99-9	(WETOX or CHOXD) fb CARBN; or CMBST	CMBST
U216	7791-12-0	Thallium chloride TlCl	Thallium (measured in aqueous wastes only)	7440-28-0	1.4	RTHRM; or STABL
U214	563-68-8	Thallium(I) acetate	Thallium (measured in aqueous wastes only)	7440-28-0	1.4	RTHRM; or STABL
U215	6533-73-9	Thallium(I) carbonate	Thallium (measured in aqueous wastes only)	7440-28-0	1.4	RTHRM; or STABL
U216	7791-12-0	Thallium(I) chloride	Thallium (measured in aqueous wastes only)	7440-28-0	1.4	RTHRM; or STABL
U217	10102-45-1	Thallium(I) nitrate	Thallium (measured in aqueous wastes only)	7440-28-0	1.4	RTHRM; or STABL

## Part B of Schedule 2 – Hazardous Waste Chemical

U218	62-55-5	Thioacetamide	Thioacetamide	62-55-5	(WETOX or CHOXD) fb CARBN; or CMBST	CMBST
U410	59669-26-0	Thiodicarb	Thiodicarb	59669-26-0	0.019	1.4
U153	74-93-1	Thiomethanol	Methanethiol	74-93-1	(WETOX or CHOXD) fb CARBN; or CMBST	CMBST
U244	137-26-8	Thioperoxydicarbonic diamide[(H <sub>2</sub> N)C(S)] <sub>2</sub> S <sub>2</sub> , tetramethyl-	Thiram	137-26-8	(WETOX or CHOXD) fb CARBN; or CMBST	CMBST
U409	23564-05-8	Thiophanate-methyl	Thiophanate-methyl	23564-05-8	0.056	1.4
U219	62-56-6	Thiourea	Thiourea	62-56-6	(WETOX or CHOXD) fb CARBN; or CMBST	CMBST
U244	137-26-8	Thiram	Thiram	137-26-8	(WETOX or CHOXD) fb CARBN; or CMBST	CMBST
U220	108-88-3	Toluene	Toluene	108-88-3	0.08	10
U223	26471-62-5	Toluene diisocyanate	Toluene diisocyanate	26471-62-5	CARBAN; or CMBST	CMBST
U221	25376-45-8	Toluenediamine	Toluenediamine	25376-45-8	CARBAN; or CMBST	CMBST
U389	2303-17-5	Triallate	Triallate	2303-17-5	0.042	1.4
U228	79-01-6	Trichloroethylene	Trichloroethylene	79-01-6	0.054	6.0
U121	75-69-4	Trichloromonofluoromethane	Trichlorofluoromethane	75-69-4	0.02	30
U404	121-44-8	Triethylamine	Triethylamine	121-44-8	0.081	1.5
U235	126-72-7	Tris(2,3-Dibromopropyl) phosphate	Tris(2,3-Dibromopropyl) phosphate	126-72-7	0.11	0.10
U236	72-57-1	Trypan blue	Trypan Blue	72-57-1	(WETOX or CHOXD) fb CARBN; or CMBST	CMBST
U237	66-75-1	Uracil mustard	Uracil mustard	66-75-1	(WETOX or CHOXD) fb CARBN; or CMBST	CMBST
U176	759-73-9	Urea, N-ethyl-N-nitroso-	N-Nitroso-N-ethylurea	759-73-9	(WETOX or CHOXD) fb CARBN; or CMBST	CMBST
U177	684-93-5	Urea, N-methyl-N-nitroso-	N-Nitroso-N-methylurea	684-93-5	(WETOX or CHOXD) fb CARBN; or CMBST	CMBST
U043	75-01-4	Vinyl chloride	Vinyl chloride	75-01-4	0.27	6.0
U248	81-81-2	Warfarin, & salts, when present at concentrations of 0.3% or less	Warfarin	81-81-2	(WETOX or CHOXD) fb CARBN; or CMBST	CMBST
U239	1330-20-7	Xylene	Xylenes-mixed isomers (sum of o-, m-, and p-xylene concentrations)	1330-20-7	0.32	30
U200	50-55-5	Yohimban-16-carboxylic acid, 11,17-dimethoxy-18-[(3,4,5-trimethoxybenzoyl)oxy]-methyl ester, (3beta,16beta,17a	Reserpine	50-55-5	(WETOX or CHOXD) fb CARBN; or CMBST	CMBST



## Part B of Schedule 2 – Hazardous Waste Chemical

		lpha, 18beta,20alpha)-				
U249	1314-84-7	Zinc phosphide Zn3P2, when present at concentrations of 10% or less	Zinc Phosphide	1314-84-7	CHOXD; CHRED; or CMBST	CHOXD; CHRED; or CMBST

### Notes to Part B of Schedule 2:

<sup>1</sup> Treatment subcategories are shown for some wastes. In these cases, it is necessary to identify the treatment subcategory that most closely describes the particular waste for which treatment is required. The land disposal treatment requirements for that waste are those shown for that treatment subcategory.

<sup>2</sup> Haz. Waste Number means Hazardous Waste Number. These numbers are consistent with United States Environmental Protection Agency Hazardous Waste Numbers. If there is no United States Environmental Protection Agency Hazardous Waste Number for a waste, the Hazardous Waste Number is assigned to the waste by the Ontario Ministry of the Environment.

<sup>3</sup> CAS Number means the Chemical Abstracts Service Registry Number. When the waste or a regulated constituent is described as a combination of a chemical with its salts or esters, the CAS number is given for the parent compound only.

<sup>4</sup> See Schedule 7 for a description of the treatment methods and treatment standards associated with each treatment code. In some cases, the entries in this Schedule may set out more than one treatment code for a regulated constituent. An entry may permit a choice of treatment methods. For example, the entry “CHOXD; BIODG; or CMBST” means that the waste may be treated using any of the treatment methods that are set out for those treatment codes in Schedule 7. An entry may require treatment methods to be applied in a particular sequence. For this purpose, the abbreviation “fb” means “followed by”. For example, the entry “CHOXD fb CARBN” means that the waste must first be treated using the treatment method that is set out for CHOXD in Schedule 7 and, following that treatment, it must be treated using the treatment method that is set out for CARBN in Schedule 7. An entry may combine a choice of treatment methods and a requirement to apply treatment methods in a particular sequence (for example, “(WETOX or CHOXD) fb CARBN; or CMBST”).

<sup>5</sup> Concentration requirements for aqueous wastes are based on analysis of composite samples.

<sup>6</sup> Concentration requirements for non-aqueous wastes are based on analysis of grab samples.

## **Schedule 3 – Severely Toxic Contaminants**

### **[Appendix A](#)**

## **Schedule 3 – Severely Toxic Contaminants**

### Schedule 3 – Severely Toxic Contaminants

Severely Toxic Contaminants			Regulated Constituent		Land Disposal Treatment Requirements	
					Aqueous Waste	Non-aqueous Waste
Column 1	Column 2	Column 3	Column 4	Column 5	Column 6	Column 7
Haz. Waste Number <sup>1</sup>	CAS Number <sup>2</sup>	Contaminant	Generic Name or other description	CAS Number <sup>2</sup>	Concentration <sup>3</sup> (mg/L)	Concentration <sup>4</sup> (mg/kg)
S001	1402-68-2	Aflatoxin	Aflatoxin	1402-68-2	NA	NA
S002	1746-01-6	2,3,7,8-Tetrachlorodibenzo-p-dioxin	TCDDs (All Tetrachlorodibenzo-p-dioxins)	41903-57-5	0.000063	0.001
S003	40321-76-4	1,2,3,7,8-Pentachlorodibenzo-p-dioxin	PeCDDs (All Pentachlorodibenzo-p-dioxins)	36088-22-9	0.000063	0.001
S004	39227-28-6	1,2,3,4,7,8-Hexachlorodibenzo-p-dioxin	HxCDDs (All Hexachlorodibenzo-p-dioxins)	34465-46-8	0.000063	0.001
S005	57653-85-7	1,2,3,6,7,8-Hexachlorodibenzo-p-dioxin	HxCDDs (All Hexachlorodibenzo-p-dioxins)	34465-46-8	0.000063	0.001
S006	19408-74-3	1,2,3,7,8,9-Hexachlorodibenzo-p-dioxin	HxCDDs (All Hexachlorodibenzo-p-dioxins)	34465-46-8	0.000063	0.001
S007	51207-31-9	2,3,7,8-Tetrachlorodibenzo furan	TCDFs (All Tetrachlorodibenzofurans)	55722-27-5	0.000063	0.001

#### Notes to Schedule 3:

<sup>1</sup> Haz. Waste Number means Hazardous Waste Number. These numbers are consistent with United States Environmental Protection Agency Hazardous Waste Numbers. If there is no United States Environmental Protection Agency Hazardous Waste Number for a waste, the Hazardous Waste Number is assigned to the waste by the Ontario Ministry of the Environment.

<sup>2</sup> CAS Number means the Chemical Abstracts Service Registry Number. When the waste or a regulated constituent is described as a combination of a chemical with its salts or esters, the CAS number is given for the parent compound only.

<sup>3</sup> Concentration requirements for aqueous wastes are based on analysis of composite samples.

<sup>4</sup> Concentration requirements for non-aqueous wastes are based on analysis of grab samples.

## **Schedule 4 – Leachate Quality Criteria**

### **[Appendix A](#)**

## **Schedule 4 – Leachate Quality Criteria**

## Schedule 4 – Leachate Quality Criteria

Contaminant	CAS Number <sup>1</sup>	Haz. Waste Number <sup>2</sup>	Concentration (mg/L TCLP)
Aldicarb	116-06-3	E101	0.9
Aldrin + Dieldrin	309-00-2, 60-57-1	E001	0.07
Arsenic	7440-38-2	D004	2.5
Atrazine + N-dealkylated metabolites (Weedex)	1912-24-9	E102	0.5
Azinphos-methyl	86-50-0	E103	2
Barium	7440-39-3	D005	100
Bendiocarb	22781-23-3	E002	4
Benzene	71-43-2	D018	0.5
Benzo(a)pyrene	50-32-8	E003	0.001
Boron	7440-42-8	E104	500
Bromoxynil	1689-84-5	E105	0.5
Cadmium	7440-43-9	D006	0.5
Carbaryl/Sevin/1-Naphthyl-N methyl carbamate	63-25-2	E004	9
Carbofuran	1563-66-2	E005	9
Carbon tetrachloride (Tetrachloromethane)	56-23-5	D019	0.5
Chlordane	57-74-9	D020	0.7
Chlorobenzene (Monochlorobenzene)	108-90-7	D021	8
Chloroform	67-66-3	D022	10
Chlorpyrifos	2921-88-2	E106	9
Chromium	7440-47-3	D007	5
Cresol (Mixture - total of all isomers, when isomers cannot be differentiated)		D026	200
m-Cresol	108-39-4	D024	200
o-Cresol	95-48-7	D023	200
p-Cresol	106-44-5	D025	200
Cyanazine	21725-46-2	E107	1
Cyanide		E006	20
2,4-D / (2,4-dichlorophenoxy)acetic acid	94-75-7	D016	10
2,4-DCP (2,4-Dichlorophenol)	120-83-2	E007	90
DDT (total isomers)		E008	3
Diazinon/Phosphordithioic acid, o,o-diethyl o-(2-isopropyl 6-methyl-4-pyrimidinyl) ester	333-41-5	E108	2
Dicamba	1918-00-9	E109	12
1,2-Dichlorobenzene (o-Dichlorobenzene)	95-50-1	E009	20
1,4-Dichlorobenzene (p-Dichlorobenzene)	106-46-7	D027	0.5
1,2-Dichloroethane (Ethylene dichloride)	107-06-2	D028	0.5
1,1-Dichloroethylene (Vinylidene chloride)	75-35-4	D029	1.4
Dichloromethane (also see - methylene chloride)	75-09-02	E010	5
Diclofop-methyl	51338-27-3	E110	0.9
Dimethoate	60-51-5	E111	2
2,4-Dinitrotoluene	121-14-2	D030	0.13
Dinoseb	88-85-7	E012	1
Dioxin & Furan		E013	0.0000015 <sup>3</sup>
Diquat	231-36-7	E112	7
Diuron	330-54-1	E113	15
Endrin	72-20-8	D012	0.02
Fluoride		E014	150
Glyphosate	1071-83-6	E114	28
Heptachlor + Heptachlor epoxide	76-44-8, 1024-57-3	D031	0.3
Hexachlorobenzene	118-74-1	D032	0.13
Hexachlorobutadiene	87-68-3	D033	0.5
Hexachloroethane	67-72-1	D034	3
Lead	7439-92-1	D008	5
Lindane	58-89-9	D013	0.4
Malathion	121-75-5	E115	19
Mercury	7439-97-6	D009	0.1
Methoxychlor/1,1,1-Trichloro-2,2-bis(p-methoxyphenyl) ethane	72-43-5	D014	90
Methyl ethyl ketone / Ethyl methyl ketone	78-93-3	D035	200
Methyl Parathion	298-00-0	E015	0.7
Methylene chloride / Dichloromethane	75-09-02	E011	5
Metolachlor	51218-45-2	E116	5
Metribuzin	21087-64-9	E117	8

## Schedule 4 – Leachate Quality Criteria

NDMA	62-75-9	E016	0.0009
Nitrate + Nitrite (as Nitrogen)		E118	1000
Nitrilotriacetic acid (NTA)	139-13-9	E119	40
Nitrobenzene	98-95-3	D036	2
Paraquat	4685-14-7	E120	1
Parathion	56-38-2	E017	5
PCBs		E018	0.3
Pentachlorophenol	87-86-5	D037	6
Phorate	298-02-2	E019	0.2
Picloram	1918-02-1	E121	19
Pyridine	110-86-1	D038	5
Selenium	7782-49-2	D010	1
Silver	7440-22-4	D011	5
Simazine	122-34-9	E122	1
2,4,5-T (2,4,5-Trichlorophenoxyacetic acid)	93-76-5	E020	28
2,4,5-TP/ Silvex/ 2-(2,4,5-Trichlorophenoxy)propionic acid	93-72-1	D017	1
Temephos	3383-96-8	E123	28
Terbufos	13071-79-9	E124	0.1
Tetrachloroethylene	127-18-4	D039	3
2,3,4,6-Tetrachlorophenol (2,3,4,6-TeCP)	58-90-2	E021	10
Toxaphene	8001-35-2	D015	0.5
Triallate	2303-17-5	E022	23
Trichloroethylene	79-01-6	D040	5
2,4,5-Trichlorophenol (2,4,5-TCP)	95-95-4	D041	400
2,4,6-Trichlorophenol (2,4,6-TCP)	88-06-2	D042	0.5
Trifluralin	1582-09-8	E125	4.5
Uranium	7440-61-1	E126	10
Vinyl chloride	75-01-4	D043	0.2

### Notes to Schedule 4:

<sup>1</sup> CAS Number means the Chemical Abstracts Service Registry Number. When the waste or a regulated constituent is described as a combination of a chemical with its salts or esters, the CAS number is given for the parent compound only.

<sup>2</sup> Haz. Waste Number means Hazardous Waste Number. These numbers are consistent with United States Environmental Protection Agency Hazardous Waste Numbers. If there is no United States Environmental Protection Agency Hazardous Waste Number for a waste, the Hazardous Waste Number is assigned to the waste by the Ontario Ministry of the Environment.

<sup>3</sup>Toxic Equivalent (TEQ)

## **Schedule 5 – Land Disposal Treatment Requirements for Characteristic Wastes**

### **Appendix A**

## **Schedule 5 – Land Disposal Treatment Requirements for Characteristic Wastes**

## Schedule 5 – Land Disposal Treatment Requirements for Characteristic Wastes

Characteristic Waste		Regulated Constituents (and Treatment Subcategories <sup>1</sup> )		Land Disposal Treatment Requirements	
				Aqueous Waste	Non-aqueous Waste
Column 1	Column 2	Column 3	Column 4	Column 5	Column 6
Haz. Waste Number <sup>2</sup>	Waste	Generic Name or other description	CAS Number <sup>3</sup>	Treatment Code <sup>4</sup> or Concentration <sup>5</sup> (mg/L)	Treatment Code <sup>4</sup> or Concentration <sup>6</sup> (mg/kg, unless otherwise indicated)
D001	Ignitable Characteristic Wastes.	<b>Treatment Subcategory 1</b>			
		Ignitable Characteristic Wastes, except for High TOC Ignitable Characteristic Liquids Subcategory.			
		Ignitable Characteristic Wastes, except for wastes meeting (a) of the definition of ignitable waste AND greater than or equal to 10 per cent total organic carbon.	NA	DEACT and meet Schedule 6 standards; or RORGS; or CMBST	DEACT and meet Schedule 6 standards; or RORGS; or CMBST
		<b>Treatment Subcategory 2</b>			
		High TOC Ignitable Characteristic Liquids. (Note: This subcategory consists of non-aqueous wastes only.)			
		High TOC Ignitable Characteristic Liquids Subcategory based on (a) of definition of ignitable waste containing greater than or equal to 10 per cent total organic carbon.	NA	NA	RORGS; CMBST; or POLYM
D002	Corrosive Characteristic Wastes.	Corrosive Characteristic Wastes.	NA	DEACT and meet Schedule 6 standards	DEACT and meet Schedule 6 standards
D003	Reactive Characteristic Wastes.	<b>Treatment Subcategory 1</b>			
		Reactive Sulphides Subcategory			
		Reactive Sulphides Subcategory based on (e) of the definition of reactive waste	NA	DEACT	DEACT
		<b>Treatment Subcategory 2</b>			
		Explosives Subcategory			
		Explosives Subcategory based on (f)(g)(h) of the definition of reactive waste	NA	DEACT and meet Schedule 6 standards	DEACT and meet Schedule 6 standards
		<b>Treatment Subcategory 3</b>			
		Unexploded ordnance and other explosive devices which have been the subject of an emergency response.			
		Unexploded ordnance and other explosive devices which have been the subject of an emergency response.	NA	DEACT	DEACT
		<b>Treatment Subcategory 4</b>			
		Other Reactives Subcategory			
		Other Reactives Subcategory based on (a) of the definition of reactive waste	NA	DEACT and meet Schedule 6 standards	DEACT and meet Schedule 6 standards
		<b>Treatment Subcategory 5</b>			
		Water Reactive Subcategory			
		Water Reactive Subcategory based on (b)(c)(d) of the definition of reactive waste. (Note: This subcategory consists of non-aqueous wastes only.)	NA	NA	DEACT and meet Schedule 6 standards



## Schedule 5 – Land Disposal Treatment Requirements for Characteristic Wastes

		<b>Treatment Subcategory 6</b>			
		Reactive Cyanides Subcategory based on (e) of the definition of reactive waste.			
		Cyanides (Total) <sup>7</sup>	57-12-5	NA	590
		Cyanides (Amenable) <sup>7</sup>	57-12-5	0.86	30
D004	Wastes that exhibit, or are expected to exhibit, the characteristic of toxicity for arsenic based on the Toxicity Characteristic Leaching Procedure.	Arsenic	7440-38-2	1.4 and meet Schedule 6 standards	5.0 mg/L TCLP and meet Schedule 6 standards
D005	Wastes that exhibit, or are expected to exhibit, the characteristic of toxicity for barium based on the Toxicity Characteristic Leaching Procedure.	Barium	7440-39-3	1.2 and meet Schedule 6 standards	21 mg/L TCLP and meet Schedule 6 standards
D006	Wastes that exhibit, or are expected to exhibit, the characteristic of toxicity for cadmium based on the Toxicity Characteristic Leaching Procedure.	<b>Treatment Subcategory 1</b>			
		Wastes that exhibit, or are expected to exhibit, the characteristic of toxicity for cadmium other than wastes in Treatment Subcategories 2 and 3.			
		Cadmium	7440-43-9	0.69 and meet Schedule 6 standards	0.11 mg/L TCLP and meet Schedule 6 standards
		<b>Treatment Subcategory 2</b>			
		Cadmium containing batteries Subcategory other than wastes in Treatment Subcategory 3. (Note: This subcategory consists of non-aqueous wastes only.)			
		Cadmium	7440-43-9	NA	RTHRM
		<b>Treatment Subcategory 3</b>			
		Radioactively contaminated cadmium containing batteries. (Note: This subcategory consists of non-aqueous wastes only.)			
		Cadmium	7440-43-9	NA	Macroencapsulation in accordance with Schedule 8 (Alternative Treatment for Hazardous Debris)
D007	Wastes that exhibit, or are expected to exhibit, the characteristic of toxicity for chromium based on the Toxicity Characteristic Leaching Procedure.	Chromium (Total)	7440-47-3	2.77 and meet Schedule 6 standards	0.60 mg/L TCLP and meet Schedule 6 standards
D008	Wastes that exhibit, or are expected to exhibit, the characteristic of toxicity for lead based on the Toxicity Characteristic Leaching Procedure.	<b>Treatment Subcategory 1</b>			
		Wastes that exhibit, or are expected to exhibit, the characteristic of toxicity for lead other than wastes in Treatment Subcategories 2 and 3.			
		Lead	7439-92-1	0.69 and meet Schedule 6 standards	0.75 mg/L TCLP and meet Schedule 6 standards
		<b>Treatment Subcategory 2</b>			
		Lead acid batteries Subcategory. (Note: This standard only applies to lead acid batteries that are identified as hazardous wastes and that are not excluded elsewhere from regulation under Regulation 347 or through a Certificate of Approval [e.g., recycling].)			
		Lead	7439-92-1	NA	RLEAD
		<b>Treatment Subcategory 3</b>			
		Radioactive Lead Solids Subcategory. (Note: These lead solids include, but are not limited to, all forms of lead shielding and other elemental forms of lead. These lead solids do not include treatment residuals such as hydroxide sludges, other wastewater treatment residuals, or incinerator ashes that can undergo conventional pozzolanic stabilization, nor do they include organo-lead materials that can be incinerated and stabilized as ash. This subcategory consists of non-aqueous wastes only.)			
		Lead	7439-92-1	NA	MACRO
D009	Wastes that exhibit, or are expected to exhibit, the characteristic of toxicity for mercury based on the Toxicity Characteristic Leaching	<b>Treatment Subcategory 1</b>			
		(High Mercury-Organic Subcategory) Non-aqueous wastes that exhibit, or are expected to exhibit, the characteristic of toxicity for mercury; and contain greater than or equal to 260 mg/kg total mercury that also contain organics and are not incinerator residues.			

## Schedule 5 – Land Disposal Treatment Requirements for Characteristic Wastes

	Procedure.	Mercury	7439-97-6	NA	IMERC; OR RMERC
		<b>Treatment Subcategory 2</b>			
		(High Mercury-Inorganic Subcategory) Non-aqueous wastes that exhibit, or are expected to exhibit, the characteristic of toxicity for mercury; and contain greater than or equal to 260 mg/kg total mercury that are inorganic, including incinerator residues and residues from RMERC.			
		Mercury	7439-97-6	NA	RMERC
		<b>Treatment Subcategory 3</b>			
		(Low Mercury Subcategory) Non-aqueous wastes that exhibit, or are expected to exhibit, the characteristic of toxicity for mercury; and contain less than 260 mg/kg total mercury and that are residues from RMERC only.			
		Mercury	7439-97-6	NA	0.20 mg/L TCLP and meet Schedule 6 standards
		<b>Treatment Subcategory 4</b>			
		(Low Mercury Subcategory) All other non-aqueous wastes that exhibit, or are expected to exhibit, the characteristic of toxicity for mercury; and contain less than 260 mg/kg total mercury and that are not residues from RMERC.			
		Mercury	7439-97-6	NA	0.025 mg/L TCLP and meet Schedule 6 standards
		<b>Treatment Subcategory 5</b>			
		All aqueous wastes that exhibit or are expected to exhibit the characteristic of toxicity for mercury.			
		Mercury	7439-97-6	0.15 mg/L TCLP and meet Schedule 6 standards	NA
		<b>Treatment Subcategory 6</b>			
		(Mercury Radioactive Materials Subcategory) Elemental mercury contaminated with radioactive materials. (Note: This subcategory consists of non-aqueous wastes only.)			
		Mercury	7439-97-6	NA	AMLGM
		<b>Treatment Subcategory 7</b>			
		Hydraulic oil contaminated with Mercury Radioactive Materials Subcategory. (Note: This subcategory consists of non-aqueous wastes only.)			
		Mercury	7439-97-6	NA	IMERC
		<b>Treatment Subcategory 8</b>			
		Radioactively contaminated mercury containing batteries. (Note: This subcategory consists of non-aqueous wastes only.)			
		Mercury	7439-97-6	NA	Macroencapsulation in accordance with Schedule 8 (Alternative Treatment for Hazardous Debris)
D010	Wastes that exhibit, or are expected to exhibit, the characteristic of toxicity for selenium based on the Toxicity Characteristic Leaching Procedure.	Selenium	7782-49-2	0.82 and meet Schedule 6 standards	5.7 mg/L TCLP and meet Schedule 6 standards
D011	Wastes that exhibit, or are expected to exhibit, the characteristic of toxicity for silver based on the Toxicity Characteristic Leaching Procedure.	<b>Treatment Subcategory 1</b>			
		Wastes that exhibit, or are expected to exhibit, the characteristic of toxicity for silver other than wastes in Treatment Subcategory 2.			
		Silver	7440-22-4	0.43 and meet Schedule 6 standards	0.14 mg/L TCLP and meet Schedule 6 standards
		<b>Treatment Subcategory 2</b>			
		Radioactively contaminated silver containing batteries Subcategory. (Note: This subcategory consists of non-aqueous wastes only.)			

## Schedule 5 – Land Disposal Treatment Requirements for Characteristic Wastes

		Silver	7440-22-4	NA	Macroencapsulation in accordance with Schedule 8 (Alternative Treatment for Hazardous Debris)
D012	Wastes that are leachate toxic for Endrin based on the Toxicity Characteristic Leaching Procedure.	Endrin	72-20-8	BIODG; or CMBST	0.13 and meet Schedule 6 standards
		Endrin aldehyde	7421-93-4	BIODG; or CMBST	0.13 and meet Schedule 6 standards
D013	Wastes that are leachate toxic for Lindane based on the Toxicity Characteristic Leaching Procedure.	alpha-BHC	319-84-6	CARB; or CMBST	0.066 and meet Schedule 6 standards
		beta-BHC	319-85-7	CARB; or CMBST	0.066 and meet Schedule 6 standards
		delta-BHC	319-86-8	CARB; or CMBST	0.066 and meet Schedule 6 standards
		gamma-BHC (Lindane)	58-89-9	CARB; or CMBST	0.066 and meet Schedule 6 standards
D014	Wastes that are leachate toxic for Methoxychlor based on the Toxicity Characteristic Leaching Procedure.	Methoxychlor	72-43-5	WETOX; or CMBST	0.18 and meet Schedule 6 standards
D015	Wastes that are leachate toxic for Toxaphene based on the Toxicity Characteristic Leaching Procedure.	Toxaphene	8001-35-2	BIODG; or CMBST	2.6 and meet Schedule 6 standards
D016	Wastes that are leachate toxic for 2,4-D (2,4-Dichlorophenoxyacetic acid) based on the Toxicity Characteristic Leaching Procedure.	2,4-D (2,4-Dichlorophenoxyacetic acid)	94-75-7	CHOXD; BIODG; or CMBST	10 and meet Schedule 6 standards
D017	Wastes that are leachate toxic for 2,4,5-TP (Silvex) based on the Toxicity Characteristic Leaching Procedure.	2,4,5-TP (Silvex)	93-72-1	CHOXD; or CMBST	7.9 and meet Schedule 6 standards
D018	Wastes that are leachate toxic for Benzene based on the Toxicity Characteristic Leaching Procedure.	Benzene	71-43-2	0.14 and meet Schedule 6 standards	10 and meet Schedule 6 standards
D019	Wastes that are leachate toxic for Carbon tetrachloride based on the Toxicity Characteristic Leaching Procedure.	Carbon tetrachloride	56-23-5	0.057 and meet Schedule 6 standards	6.0 and meet Schedule 6 standards
D020	Wastes that are leachate toxic for Chlordane based on the Toxicity Characteristic Leaching Procedure.	Chlordane (alpha and gamma isomers)	57-74-9	0.0033 and meet Schedule 6 standards	0.26 and meet Schedule 6 standards
D021	Wastes that are leachate toxic for Chlorobenzene based on the Toxicity Characteristic Leaching Procedure.	Chlorobenzene	108-90-7	0.057 and meet Schedule 6 standards	6.0 and meet Schedule 6 standards
D022	Wastes that are leachate toxic for Chloroform based on the Toxicity Characteristic Leaching Procedure.	Chloroform	67-66-3	0.046 and meet Schedule 6 standards	6.0 and meet Schedule 6 standards
D023	Wastes that are leachate toxic for o-Cresol based on the Toxicity Characteristic Leaching Procedure.	o-Cresol	95-48-7	0.11 and meet Schedule 6 standards	5.6 and meet Schedule 6 standards
D024	Wastes that are leachate toxic for m-Cresol based on the Toxicity Characteristic Leaching Procedure.	m-Cresol (difficult to distinguish from p-cresol)	108-39-4	0.77 and meet Schedule 6 standards	5.6 and meet Schedule 6 standards
D025	Wastes that are leachate toxic for p-Cresol based on the	p-Cresol (difficult to distinguish from m-cresol)	106-44-5	0.77 and meet Schedule 6	5.6 and meet Schedule 6 standards

## Schedule 5 – Land Disposal Treatment Requirements for Characteristic Wastes

	Toxicity Characteristic Leaching Procedure.			standards	
D026	Wastes that are leachate toxic for Cresols (Total) based on the Toxicity Characteristic Leaching Procedure.	Cresol-mixed isomers (Cresylic acid) (sum of o-, m-, and p-cresol concentrations)	1319-77-3	0.88 and meet Schedule 6 standards	11.2 and meet Schedule 6 standards
D027	Wastes that are leachate toxic for p-Dichlorobenzene based on the Toxicity Characteristic Leaching Procedure.	p-Dichlorobenzene (1,4-Dichlorobenzene)	106-46-7	0.090 and meet Schedule 6 standards	6.0 and meet Schedule 6 standards
D028	Wastes that are leachate toxic for 1,2-Dichloroethane based on the Toxicity Characteristic Leaching Procedure.	1,2-Dichloroethane	107-06-2	0.21 and meet Schedule 6 standards	6.0 and meet Schedule 6 standards
D029	Wastes that are leachate toxic for 1,1-Dichloroethylene based on the Toxicity Characteristic Leaching Procedure.	1,1-Dichloroethylene	75-35-4	0.25 and meet Schedule 6 standards	6.0 and meet Schedule 6 standards
D030	Wastes that are leachate toxic for 2,4-Dinitrotoluene based on the Toxicity Characteristic Leaching Procedure.	2,4-Dinitrotoluene	121-14-2	0.32 and meet Schedule 6 standards	140 and meet Schedule 6 standards
D031	Wastes that are leachate toxic for Heptachlor based on the Toxicity Characteristic Leaching Procedure.	Heptachlor	76-44-8	0.0012 and meet Schedule 6 standards	0.066 and meet Schedule 6 standards
		Heptachlor epoxide	1024-57-3	0.016 and meet Schedule 6 standards	0.066 and meet Schedule 6 standards
D032	Wastes that are leachate toxic for Hexachlorobenzene based on the Toxicity Characteristic Leaching Procedure.	Hexachlorobenzene	118-74-1	0.055 and meet Schedule 6 standards	10 and meet Schedule 6 standards
D033	Wastes that are leachate toxic for Hexachlorobutadiene based on the Toxicity Characteristic Leaching Procedure.	Hexachlorobutadiene	87-68-3	0.055 and meet Schedule 6 standards	5.6 and meet Schedule 6 standards
D034	Wastes that are leachate toxic for Hexachloroethane based on the Toxicity Characteristic Leaching Procedure.	Hexachloroethane	67-72-1	0.055 and meet Schedule 6 standards	30 and meet Schedule 6 standards
D035	Wastes that are leachate toxic for Methyl ethyl ketone based on the Toxicity Characteristic Leaching Procedure.	Methyl ethyl ketone	78-93-3	0.28 and meet Schedule 6 standards	36 and meet Schedule 6 standards
D036	Wastes that are leachate toxic for Nitrobenzene based on the Toxicity Characteristic Leaching Procedure.	Nitrobenzene	98-95-3	0.068 and meet Schedule 6 standards	14 and meet Schedule 6 standards
D037	Wastes that are leachate toxic for Pentachlorophenol based on the Toxicity Characteristic Leaching Procedure.	Pentachlorophenol	87-86-5	0.089 and meet Schedule 6 standards	7.4 and meet Schedule 6 standards
D038	Wastes that are leachate toxic for Pyridine based on the Toxicity Characteristic Leaching Procedure.	Pyridine	110-86-1	0.014 and meet Schedule 6 standards	16 and meet Schedule 6 standards
D039	Wastes that are leachate toxic for Tetrachloroethylene based on the Toxicity Characteristic Leaching Procedure.	Tetrachloroethylene	127-18-4	0.056 and meet Schedule 6 standards	6.0 and meet Schedule 6 standards
D040	Wastes that are leachate toxic for Trichloroethylene based on the Toxicity Characteristic Leaching Procedure.	Trichloroethylene	79-01-6	0.054 and meet Schedule 6 standards	6.0 and meet Schedule 6 standards
D041	Wastes that are leachate toxic	2,4,5-Trichlorophenol	95-95-4	0.18 and meet	7.4 and meet Schedule

## Schedule 5 – Land Disposal Treatment Requirements for Characteristic Wastes

	for 2,4,5-Trichlorophenol based on the Toxicity Characteristic Leaching Procedure.			Schedule 6 standards	6 standards
D042	Wastes that are leachate toxic for 2,4,6-Trichlorophenol based on the Toxicity Characteristic Leaching Procedure.	2,4,6-Trichlorophenol	88-06-2	0.035 and meet Schedule 6 standards	7.4 and meet Schedule 6 standards
D043	Wastes that are leachate toxic for Vinyl chloride based on the Toxicity Characteristic Leaching Procedure.	Vinyl chloride	75-01-4	0.27 and meet Schedule 6 standards	6.0 and meet Schedule 6 standards
E001	Wastes that are leachate toxic for Aldrin + Dieldrin based on the Toxicity Characteristic Leaching Procedure.	Aldrin	309-00-2	0.021 and meet Schedule 6 standards	0.066 and meet Schedule 6 standards
		Dieldrin	60-57-1	0.017 and meet Schedule 6 standards	0.13 and meet Schedule 6 standards
E002	Wastes that are leachate toxic for Bendiocarb based on the Toxicity Characteristic Leaching Procedure.	Bendiocarb	22781-23-3	N/A	1.4 and meet Schedule 6 standards
E003	Wastes that are leachate toxic for Benzo(a)pyrene based on the Toxicity Characteristic Leaching Procedure.	Benzo(a)pyrene	50-32-8	N/A	3.4 and meet Schedule 6 standards
E004	Wastes that are leachate toxic for Carbaryl/Sevin/1-Naphthyl-N methyl carbamate based on the Toxicity Characteristic Leaching Procedure.	Carbaryl/Sevin/1-Naphthyl-N methyl carbamate	63-25-2	N/A	0.14 and meet Schedule 6 standards
E005	Wastes that are leachate toxic for Carbofuran based on the Toxicity Characteristic Leaching Procedure.	Carbofuran	1563-66-2	N/A	0.14 and meet Schedule 6 standards
E006	Wastes that exhibit, or are expected to exhibit, the characteristic of toxicity for Cyanide based on the Toxicity Characteristic Leaching Procedure.	Cyanides (Total) <sup>7</sup>	57-12-5	1.2 and meet Schedule 6 standards	590 and meet Schedule 6 standards
		Cyanides (Amenable) <sup>7</sup>	57-12-5	0.86 and meet Schedule 6 standards	30 and meet Schedule 6 standards
E007	Wastes that are leachate toxic for 2,4-DCP (2,4-Dichlorophenol) based on the Toxicity Characteristic Leaching Procedure.	2,4-DCP (2,4-Dichlorophenol)	120-83-2	N/A	14 and meet Schedule 6 standards
E008	Wastes that are leachate toxic for DDT (total isomers) based on the Toxicity Characteristic Leaching Procedure.	DDT (total isomers)		N/A	0.087 and meet Schedule 6 standards
E009	Wastes that are leachate toxic for 1,2-Dichlorobenzene (o-Dichlorobenzene) based on the Toxicity Characteristic Leaching Procedure.	1,2-Dichlorobenzene (o-Dichlorobenzene)	95-50-1	N/A	6.0 and meet Schedule 6 standards
E010	Wastes that are leachate toxic for Dichloromethane (also see -methylene chloride) based on the Toxicity Characteristic Leaching Procedure.	Dichloromethane (also see -methylene chloride)	75-09-02	N/A	30 and meet Schedule 6 standards
E011	Wastes that are leachate toxic for Methylene chloride / Dichloromethane based on the Toxicity Characteristic	Methylene chloride / Dichloromethane	75-09-02	N/A	30 and meet Schedule 6 standards

## Schedule 5 – Land Disposal Treatment Requirements for Characteristic Wastes

	Leaching Procedure.				
E012	Wastes that are leachate toxic for Dinoseb based on the Toxicity Characteristic Leaching Procedure.	Dinoseb	88-85-7	N/A	2.5 and meet Schedule 6 standards
E013	Wastes that are leachate toxic for Dioxin & Furans based on the Toxicity Characteristic Leaching Procedure.	1,2,3,4,6,7,8-Heptachlorodibenzo-p-dioxin, (1,2,3,4,6,7,8-HpCDD)	35822-46-9	0.000035 and meet Schedule 6 standards	0.0025 and meet Schedule 6 standards
		1,2,3,4,6,7,8-Heptachlorodibenzofuran, (1,2,3,4,6,7,8-HpCDF)	67562-39-4	0.000035 and meet Schedule 6 standards	0.0025 and meet Schedule 6 standards
		1,2,3,4,7,8,9-Heptachlorodibenzofuran, (1,2,3,4,7,8,9-HpCDF)	55673-89-7	0.000035 and meet Schedule 6 standards	0.0025 and meet Schedule 6 standards
		HxCDDs (All Hexachlorodibenzo-p-dioxins)	34465-46-8	0.000063 and meet Schedule 6 standards	0.001 and meet Schedule 6 standards
		HxCDFs (All Hexachlorodibenzofurans)	55684-94-1	0.000063 and meet Schedule 6 standards	0.001 and meet Schedule 6 standards
		1,2,3,4,6,7,8,9-Octachlorodibenzo-p-dioxin, (OCDD)	3268-87-9	0.000063 and meet Schedule 6 standards	0.001 and meet Schedule 6 standards
		1,2,3,4,6,7,8,9-Octachlorodibenzofuran, (OCDF)	39001-02-0	0.000063 and meet Schedule 6 standards	0.001 and meet Schedule 6 standards
		PeCDDs (All Pentachlorodibenzo-p-dioxins)	36088-22-9	0.000063 and meet Schedule 6 standards	0.001 and meet Schedule 6 standards
		PeCDFs (All Pentachlorodibenzofurans)	30402-15-4	0.000035 and meet Schedule 6 standards	0.001 and meet Schedule 6 standards
		TCDDs (All tetrachlorodibenzo-p-dioxins)	41903-57-5	0.000063 and meet Schedule 6 standards	0.001 and meet Schedule 6 standards
		TCDFs (All tetrachlorodibenzofurans)	55722-27-5	0.000063 and meet Schedule 6 standards	0.001 and meet Schedule 6 standards
E014	Wastes that exhibit, or are expected to exhibit, the characteristic of toxicity for Fluoride based on the Toxicity Characteristic Leaching Procedure.	Fluoride	16984-48-8	35 and meet Schedule 6 standards	NA
E015	Wastes that are leachate toxic for Methyl Parathion based on the Toxicity Characteristic Leaching Procedure.	Methyl Parathion	298-00-0	N/A	4.6 and meet Schedule 6 standards
E016	Wastes that are leachate toxic for NDMA based on the Toxicity Characteristic Leaching Procedure.	NDMA	62-75-9	N/A	2.3 and meet Schedule 6 standards
E017	Wastes that are leachate toxic for Parathion based on the Toxicity Characteristic Leaching Procedure.	Parathion	56-38-2	N/A	4.6 and meet Schedule 6 standards
E018	Wastes that are leachate toxic for PCBs based on the Toxicity Characteristic Leaching Procedure.	Total PCBs (Sum of all PCB Isomers, or all Aroclors)	1336-36-3	0.10 and meet Schedule 6 standards	10 and meet Schedule 6 standards
E019	Wastes that are leachate toxic for Phorate based on the Toxicity Characteristic Leaching Procedure.	Phorate	298-02-2	N/A	4.6 and meet Schedule 6 standards

## Schedule 5 – Land Disposal Treatment Requirements for Characteristic Wastes

E020	Wastes that are leachate toxic for 2,4,5-T (2,4,5-Trichlorophenoxyacetic acid) based on the Toxicity Characteristic Leaching Procedure.	2,4,5-T (2,4,5-Trichlorophenoxyacetic acid)	93-76-5	N/A	7.9 and meet Schedule 6 standards
E021	Wastes that are leachate toxic for 2,3,4,6-Tetrachlorophenol /(2,3,4,6-TeCP) based on the Toxicity Characteristic Leaching Procedure.	2,3,4,6-Tetrachlorophenol /(2,3,4,6-TeCP)	58-90-2	N/A	7.4 and meet Schedule 6 standards
E022	Wastes that are leachate toxic for Triallate based on the Toxicity Characteristic Leaching Procedure.	Triallate	2303-17-5	N/A	1.4 and meet Schedule 6 standards
E101	Wastes that are leachate toxic for Aldicarb based on the Toxicity Characteristic Leaching Procedure.	Aldicarb	116-06-3	Meet Schedule 6 standards and best efforts to achieve 0.9	Meet Schedule 6 standards and best efforts to achieve 0.9 mg/L TCLP
E102	Wastes that are leachate toxic for Atrazine + N-dealkylated metabolites (Weedex) based on the Toxicity Characteristic Leaching Procedure.	Atrazine + N-dealkylated metabolites (Weedex)	1912-24-9	Meet Schedule 6 standards and best efforts to achieve 0.5	Meet Schedule 6 standards and best efforts to achieve 0.5 mg/L TCLP
E103	Wastes that are leachate toxic for Azinphos-methyl based on the Toxicity Characteristic Leaching Procedure.	Azinphos-methyl	86-50-0	Meet Schedule 6 standards and best efforts to achieve 2	Meet Schedule 6 standards and best efforts to achieve 2 mg/L TCLP
E104	Wastes that exhibit, or are expected to exhibit, the characteristic of toxicity for Boron based on the Toxicity Characteristic Leaching Procedure.	Boron	7440-42-8	Meet Schedule 6 standards and best efforts to achieve 500	Meet Schedule 6 standards and best efforts to achieve 500 mg/L TCLP
E105	Wastes that are leachate toxic for Bromoxynil based on the Toxicity Characteristic Leaching Procedure.	Bromoxynil	1689-84-5	Meet Schedule 6 standards and best efforts to achieve 0.5	Meet Schedule 6 standards and best efforts to achieve 0.5 mg/L TCLP
E106	Wastes that are leachate toxic for Chlorpyrifos based on the Toxicity Characteristic Leaching Procedure.	Chlorpyrifos	2921-88-2	Meet Schedule 6 standards and best efforts to achieve 9	Meet Schedule 6 standards and best efforts to achieve 9 mg/L TCLP
E107	Wastes that are leachate toxic for Cyanazine based on the Toxicity Characteristic Leaching Procedure.	Cyanazine	21725-46-2	Meet Schedule 6 standards and best efforts to achieve 1	Meet Schedule 6 standards and best efforts to achieve 1 mg/L TCLP
E108	Wastes that are leachate toxic for Diazinon/Phosphordithioic acid, o,o-diethyl o-(2-isopropyl 6-methyl-4-pyrimidinyl) ester based on the Toxicity Characteristic Leaching Procedure.	Diazinon/Phosphordithioic acid, o,o-diethyl o-(2-isopropyl 6-methyl-4-pyrimidinyl) ester	333-41-5	Meet Schedule 6 standards and best efforts to achieve 2	Meet Schedule 6 standards and best efforts to achieve 2 mg/L TCLP
E109	Wastes that are leachate toxic for Dicamba based on the Toxicity Characteristic Leaching Procedure.	Dicamba	1918-00-9	Meet Schedule 6 standards and best efforts to achieve 12	Meet Schedule 6 standards and best efforts to achieve 12 mg/L TCLP
E110	Wastes that are leachate toxic for Diclofop-methyl based on the Toxicity Characteristic Leaching Procedure.	Diclofop-methyl	51338-27-3	Meet Schedule 6 standards and best efforts to achieve 0.9	Meet Schedule 6 standards and best efforts to achieve 0.9 mg/L TCLP
E111	Wastes that are leachate toxic for Dimethoate based on the Toxicity Characteristic Leaching Procedure.	Dimethoate	60-51-5	Meet Schedule 6 standards and best efforts to achieve 2	Meet Schedule 6 standards and best efforts to achieve 2 mg/L TCLP

## Schedule 5 – Land Disposal Treatment Requirements for Characteristic Wastes

E112	Wastes that are leachate toxic for Diquat based on the Toxicity Characteristic Leaching Procedure.	Diquat	231-36-7	Meet Schedule 6 standards and best efforts to achieve 7	Meet Schedule 6 standards and best efforts to achieve 7 mg/L TCLP
E113	Wastes that are leachate toxic for Diuron based on the Toxicity Characteristic Leaching Procedure.	Diuron	330-54-1	Meet Schedule 6 standards and best efforts to achieve 15	Meet Schedule 6 standards and best efforts to achieve 15 mg/L TCLP
E114	Wastes that are leachate toxic for Glyphosate based on the Toxicity Characteristic Leaching Procedure.	Glyphosate	1071-83-6	Meet Schedule 6 standards and best efforts to achieve 28	Meet Schedule 6 standards and best efforts to achieve 28 mg/L TCLP
E115	Wastes that are leachate toxic for Malathion based on the Toxicity Characteristic Leaching Procedure.	Malathion	121-75-5	Meet Schedule 6 standards and best efforts to achieve 19	Meet Schedule 6 standards and best efforts to achieve 19 mg/L TCLP
E116	Wastes that are leachate toxic for Metolachlor based on the Toxicity Characteristic Leaching Procedure.	Metolachlor	51218-45-2	Meet Schedule 6 standards and best efforts to achieve 5	Meet Schedule 6 standards and best efforts to achieve 5 mg/L TCLP
E117	Wastes that are leachate toxic for Aldicarb based on the Toxicity Characteristic Leaching Procedure.	Metribuzin	21087-64-9	Meet Schedule 6 standards and best efforts to achieve 8	Meet Schedule 6 standards and best efforts to achieve 8 mg/L TCLP
E118	Wastes that exhibit, or are expected to exhibit, the characteristic of toxicity for Nitrate + Nitrite (as Nitrogen) based on the Toxicity Characteristic Leaching Procedure.	Nitrate + Nitrite (as Nitrogen)		Meet Schedule 6 standards and best efforts to achieve 1000	Meet Schedule 6 standards and best efforts to achieve 1000 mg/L TCLP
E119	Wastes that are leachate toxic for Nitrilotriacetic acid (NTA) based on the Toxicity Characteristic Leaching Procedure.	Nitrilotriacetic acid (NTA)	139-13-9	Meet Schedule 6 standards and best efforts to achieve 40	Meet Schedule 6 standards and best efforts to achieve 40 mg/L TCLP
E120	Wastes that are leachate toxic for Paraquat based on the Toxicity Characteristic Leaching Procedure.	Paraquat	4685-14-7	Meet Schedule 6 standards and best efforts to achieve 1	Meet Schedule 6 standards and best efforts to achieve 1 mg/L TCLP
E121	Wastes that are leachate toxic for Picloram based on the Toxicity Characteristic Leaching Procedure.	Picloram	1918-02-1	Meet Schedule 6 standards and best efforts to achieve 19	Meet Schedule 6 standards and best efforts to achieve 19 mg/L TCLP
E122	Wastes that are leachate toxic for Simazine based on the Toxicity Characteristic Leaching Procedure.	Simazine	122-34-9	Meet Schedule 6 standards and best efforts to achieve 1	Meet Schedule 6 standards and best efforts to achieve 1 mg/L TCLP
E123	Wastes that are leachate toxic for Temephos based on the Toxicity Characteristic Leaching Procedure.	Temephos	3383-96-8	Meet Schedule 6 standards and best efforts to achieve 28	Meet Schedule 6 standards and best efforts to achieve 28 mg/L TCLP
E124	Wastes that are leachate toxic for Terbufos based on the Toxicity Characteristic Leaching Procedure.	Terbufos	13071-79-9	Meet Schedule 6 standards and best efforts to achieve 0.1	Meet Schedule 6 standards and best efforts to achieve 0.1 mg/L TCLP
E125	Wastes that are leachate toxic for Trifluralin based on the Toxicity Characteristic Leaching Procedure.	Trifluralin	1582-09-8	Meet Schedule 6 standards and best efforts to achieve 4.5	Meet Schedule 6 standards and best efforts to achieve 4.5 mg/L TCLP
E126	Wastes that exhibit, or are expected to exhibit, the characteristic of toxicity for uranium based on the Toxicity Characteristic Leaching	Uranium	7440-61-1	Meet Schedule 6 standards and best efforts to achieve 10	Meet Schedule 6 standards and best efforts to achieve 10 mg/L TCLP



## Schedule 5 – Land Disposal Treatment Requirements for Characteristic Wastes

	Procedure.				
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### Notes to Schedule 5:

<sup>1</sup> Treatment subcategories are shown for some wastes. In these cases, it is necessary to identify the treatment subcategory that most closely describes the particular waste for which treatment is required. The land disposal treatment requirements for that waste are those shown for that treatment subcategory.

<sup>2</sup> Haz. Waste Number means Hazardous Waste Number. These numbers are consistent with United States Environmental Protection Agency Hazardous Waste Numbers. If there is no United States Environmental Protection Agency Hazardous Waste Number for a waste, the Hazardous Waste Number is assigned to the waste by the Ontario Ministry of the Environment.

<sup>3</sup> CAS Number means the Chemical Abstracts Service Registry Number. When the waste or a regulated constituent is described as a combination of a chemical with its salts or esters, the CAS number is given for the parent compound only.

<sup>4</sup> See Schedule 7 for a description of the treatment methods and treatment standards associated with each treatment code. In some cases, the entries in this Schedule may set out more than one treatment code for a regulated constituent. An entry may permit a choice of treatment methods. For example, the entry “CHOXD; BIODG; or CMBST” means that the waste may be treated using any of the treatment methods that are set out for those treatment codes in Schedule 7. An entry may require treatment methods to be applied in a particular sequence. For this purpose, the abbreviation “fb” means “followed by”. For example, the entry “CHOXD fb CARBN” means that the waste must first be treated using the treatment method that is set out for CHOXD in Schedule 7 and, following that treatment, it must be treated using the treatment method that is set out for CARBN in Schedule 7. An entry may combine a choice of treatment methods and a requirement to apply treatment methods in a particular sequence (for example, “(WETOX or CHOXD) fb CARBN; or CMBST”).

<sup>5</sup> Concentration requirements for aqueous wastes are based on analysis of composite samples.

<sup>6</sup> Concentration requirements for non-aqueous wastes are based on analysis of grab samples.

<sup>7</sup> Both Cyanides (Total) and Cyanides (Amenable) for non-aqueous wastes are to be analyzed using Method 9010 or 9012, found in “Test Methods for Evaluating Solid Waste, Physical/ Chemical Methods”, United States Environmental Protection Agency Publication SW-846, with a sample size of 10 grams and a distillation time of one hour and 15 minutes.

## **Schedule 6 – Universal Treatment Standards (UTS) for Characteristic Wastes**

### **[Appendix A](#)**

## **Schedule 6 – Universal Treatment Standards (UTS) for Characteristic Wastes**

## Schedule 6 – Universal Treatment Standards (UTS) for Characteristic Wastes

Regulated Constituent		Land Disposal Treatment Requirements	
		Aqueous Waste	Non-aqueous Waste
Column 1	Column 2	Column 3	Column 4
Common Name	CAS Number <sup>1</sup>	Concentration <sup>2</sup> (mg/L)	Concentration <sup>3</sup> (mg/kg, unless otherwise indicated)
Organic Constituents:			
Acenaphthylene	208-96-8	0.059	3.4
Acenaphthene	83-32-9	0.059	3.4
Acetone	67-64-1	0.28	160
Acetonitrile	75-05-8	5.6	38
Acetophenone	96-86-2	0.010	9.7
2-Acetylaminofluorene	53-96-3	0.059	140
Acrolein	107-02-8	0.29	NA
Acrylamide	79-06-1	19	23
Acrylonitrile	107-13-1	0.24	84
Aldicarb sulfone	1646-88-4	0.056	0.28
Aldrin	309-00-2	0.021	0.066
4-Aminobiphenyl	92-67-1	0.13	NA
Aniline	62-53-3	0.81	14
Anthracene	120-12-7	0.059	3.4
Aramite	140-57-8	0.36	NA
alpha-BHC	319-84-6	0.00014	0.066
beta-BHC	319-85-7	0.00014	0.066
delta-BHC	319-86-8	0.023	0.066
gamma-BHC	58-89-9	0.0017	0.066
Barban	101-27-9	0.056	1.4
Bendiocarb	22781-23-3	0.056	1.4
Benomyl	17804-35-2	0.056	1.4
Benzene	71-43-2	0.14	10
Benz(a)anthracene	56-55-3	0.059	3.4
Benzal chloride	98-87-3	0.055	6.0
Benzo(b)fluoranthene (difficult to distinguish from benzo(k)fluoranthene)	205-99-2	0.11	6.8
Benzo(k)fluoranthene (difficult to distinguish from benzo(b)fluoranthene)	207-08-9	0.11	6.8
Benzo(g,h,i)perylene	191-24-2	0.0055	1.8
Benzo(a)pyrene	50-32-8	0.061	3.4
Bromodichloromethane	75-27-4	0.35	15
Bromomethane/Methyl bromide	74-83-9	0.11	15
4-Bromophenyl phenyl ether	101-55-3	0.055	15
n-Butyl alcohol	71-36-3	5.6	2.6
Butylate	2008-41-5	0.042	1.4
Butyl benzyl phthalate	85-68-7	0.017	28
2-sec-Butyl-4,6-dinitrophenol (Dinoseb)	88-85-7	0.066	2.5
Carbaryl	63-25-2	0.006	0.14
Carbendazim	10605-21-7	0.056	1.4
Carbofuran	1563-66-2	0.006	0.14
Carbofuran phenol	1563-38-8	0.056	1.4
Carbon disulfide	75-15-0	3.8	4.8 mg/L TCLP
Carbon tetrachloride	56-23-5	0.057	6.0
Carbosulfan	55285-14-8	0.028	1.4
Chlordane (alpha and gamma isomers)	57-74-9	0.0033	0.26
p-Chloroaniline	106-47-8	0.46	16
Chlorobenzene	108-90-7	0.057	6.0
Chlorobenzilate	510-15-6	0.10	NA
2-Chloro-1,3-butadiene	126-99-8	0.057	0.28
Chlorodibromomethane	124-48-1	0.057	15
Chloroethane	75-00-3	0.27	6.0
bis(2-Chloroethoxy)methane	111-91-1	0.036	7.2
bis(2-Chloroethyl)ether	111-44-4	0.033	6.0
Chloroform	67-66-3	0.046	6.0

## Schedule 6 – Universal Treatment Standards (UTS) for Characteristic Wastes

bis(2-Chloroisopropyl)ether	39638-32-9	0.055	7.2
p-Chloro-m-cresol	59-50-7	0.018	14
2-Chloroethyl vinyl ether	110-75-8	0.062	NA
Chloromethane/Methyl chloride	74-87-3	0.19	30
2-Chloronaphthalene	91-58-7	0.055	5.6
2-Chlorophenol	95-57-8	0.044	5.7
3-Chloropropylene	107-05-1	0.036	30
Chrysene	218-01-9	0.059	3.4
o-Cresol	95-48-7	0.11	5.6
m-Cresol (difficult to distinguish from p-cresol)	108-39-4	0.77	5.6
p-Cresol (difficult to distinguish from m-cresol)	106-44-5	0.77	5.6
m-Cumenyl methylcarbamate	64-00-6	0.056	1.4
Cyclohexanone	108-94-1	0.36	0.75 mg/L TCLP
o,p'-DDD	53-19-0	0.023	0.087
p,p'-DDD	72-54-8	0.023	0.087
o,p'-DDE	3424-82-6	0.031	0.087
p,p'-DDE	72-55-9	0.031	0.087
o,p'-DDT	789-02-6	0.0039	0.087
p,p'-DDT	50-29-3	0.0039	0.087
Dibenz(a,h)anthracene	53-70-3	0.055	8.2
Dibenz(a,e)pyrene	192-65-4	0.061	NA
1,2-Dibromo-3-chloropropane	96-12-8	0.11	15
1,2-Dibromoethane/Ethylene dibromide	106-93-4	0.028	15
Dibromomethane	74-95-3	0.11	15
m-Dichlorobenzene	541-73-1	0.036	6.0
o-Dichlorobenzene	95-50-1	0.088	6.0
p-Dichlorobenzene	106-46-7	0.09	6.0
Dichlorodifluoromethane	75-71-8	0.23	7.2
1,1-Dichloroethane	75-34-3	0.059	6.0
1,2-Dichloroethane	107-06-2	0.21	6.0
1,1-Dichloroethylene	75-35-4	0.025	6.0
trans-1,2-Dichloroethylene	156-60-5	0.054	30
2,4-Dichlorophenol	120-83-2	0.044	14
2,6-Dichlorophenol	87-65-0	0.044	14
2,4-Dichlorophenoxyacetic acid/2,4-D	94-75-7	0.72	10
1,2-Dichloropropane	78-87-5	0.85	18
cis-1,3-Dichloropropylene	10061-01-5	0.036	18
trans-1,3-Dichloropropylene	10061-02-6	0.036	18
Dieldrin	60-57-1	0.017	0.13
Diethyl phthalate	84-66-2	0.20	28
p-Dimethylaminoazobenzene	60-11-7	0.13	NA
2,4-Dimethylphenol	105-67-9	0.036	14
Dimethyl phthalate	131-11-3	0.047	28
Di-n-butyl phthalate	84-74-2	0.057	28
1,4-Dinitrobenzene	100-25-4	0.32	2.3
4,6-Dinitro-o-cresol	534-52-1	0.28	160
2,4-Dinitrophenol	51-28-5	0.12	160
2,4-Dinitrotoluene	121-14-2	0.32	140
2,6-Dinitrotoluene	606-20-2	0.55	28
Di-n-octyl phthalate	117-84-0	0.017	28
Di-n-propylnitrosamine	621-64-7	0.40	14
1,4-Dioxane	123-91-1	12.0	170
Diphenylamine (difficult to distinguish from diphenylnitrosamine)	122-39-4	0.92	13
Diphenylnitrosamine (difficult to distinguish from diphenylamine)	86-30-6	0.92	13
1,2-Diphenylhydrazine	122-66-7	0.087	NA
Disulfoton	298-04-4	0.017	6.2
Dithiocarbamates (total)	NA	0.028	28
Endosulfan I	959-98-8	0.023	0.066
Endosulfan II	33213-65-9	0.029	0.13
Endosulfan sulfate	1031-07-8	0.029	0.13
Endrin	72-20-8	0.0028	0.13

## Schedule 6 – Universal Treatment Standards (UTS) for Characteristic Wastes

Endrin aldehyde	7421-93-4	0.025	0.13
EPTC	759-94-4	0.042	1.4
Ethyl acetate	141-78-6	0.34	33
Ethyl benzene	100-41-4	0.057	10
Ethyl cyanide/Propanenitrile	107-12-0	0.24	360
Ethyl ether	60-29-7	0.12	160
Ethyl methacrylate	97-63-2	0.14	160
Ethylene oxide	75-21-8	0.12	NA
Famphur	52-85-7	0.017	15
Fluoranthene	206-44-0	0.068	3.4
Fluorene	86-73-7	0.059	3.4
Formetanate hydrochloride	23422-53-9	0.056	1.4
Heptachlor	76-44-8	0.0012	0.066
1,2,3,4,6,7,8-Heptachlorodibenzo-p-dioxin, (1,2,3,4,6,7,8-HpCDD)	35822-46-9	0.000035	0.0025
1,2,3,4,6,7,8-Heptachlorodibenzofuran, (1,2,3,4,6,7,8-HpCDF)	67562-39-4	0.000035	0.0025
1,2,3,4,7,8,9-Heptachlorodibenzofuran, (1,2,3,4,7,8,9-HpCDF)	55673-89-7	0.000035	0.0025
Heptachlor epoxide	1024-57-3	0.016	0.066
Hexachlorobenzene	118-74-1	0.055	10
Hexachlorobutadiene	87-68-3	0.055	5.6
Hexachlorocyclopentadiene	77-47-4	0.057	2.4
HxCDDs (All Hexachlorodibenzo-p-dioxins)	NA	0.000063	0.001
HxCDFs (All Hexachlorodibenzofurans)	NA	0.000063	0.001
Hexachloroethane	67-72-1	0.055	30
Indeno(1,2,3-cd)pyrene	193-39-5	0.0055	3.4
Iodomethane	74-88-4	0.19	65
Isobutyl alcohol	78-83-1	5.6	170
Isodrin	465-73-6	0.021	0.066
Isosafrole	120-58-1	0.081	2.6
Kepone	143-50-0	0.0011	0.13
Methacrylonitrile	126-98-7	0.24	84
Methanol	67-56-1	5.6	0.75 mg/L TCLP
Methapyrilene	91-80-5	0.081	1.5
Methiocarb	2032-65-7	0.056	1.4
Methomyl	16752-77-5	0.028	0.14
Methoxychlor	72-43-5	0.25	0.18
3-Methylcholanthrene	56-49-5	0.0055	15
4,4'-Methylene bis(2-chloroaniline)	101-14-4	0.50	30
Methylene chloride	75-09-2	0.089	30
Methyl ethyl ketone	78-93-3	0.28	36
Methyl isobutyl ketone	108-10-1	0.14	33
Methyl methacrylate	80-62-6	0.14	160
Methyl methanesulfonate	66-27-3	0.018	NA
Methyl parathion	298-00-0	0.014	4.6
Metolcarb	1129-41-5	0.056	1.4
Mexacarbate	315-18-4	0.056	1.4
Molinate	2212-67-1	0.042	1.4
Naphthalene	91-20-3	0.059	5.6
2-Naphthylamine	91-59-8	0.52	NA
o-Nitroaniline	88-74-4	0.27	14
p-Nitroaniline	100-01-6	0.028	28
Nitrobenzene	98-95-3	0.068	14
5-Nitro-o-toluidine	99-55-8	0.32	28
o-Nitrophenol	88-75-5	0.028	13
p-Nitrophenol	100-02-7	0.12	29
N-Nitrosodiethylamine	55-18-5	0.40	28
N-Nitrosodimethylamine	62-75-9	0.40	2.3
N-Nitroso-di-n-butylamine	924-16-3	0.40	17
N-Nitrosomethylethylamine	10595-95-6	0.40	2.3
N-Nitrosomorpholine	59-89-2	0.40	2.3
N-Nitrosopiperidine	100-75-4	0.013	35
N-Nitrosopyrrolidine	930-55-2	0.013	35
1,2,3,4,6,7,8,9-Octachlorodibenzo-p-dioxin, (OCDD)	3268-87-9	0.000063	0.005

## Schedule 6 – Universal Treatment Standards (UTS) for Characteristic Wastes

1,2,3,4,6,7,8,9-Octachlorodibenzofuran, (OCDF)	39001-02-0	0.000063	0.005
Oxamyl	23135-22-0	0.056	0.28
Parathion	56-38-2	0.014	4.6
Total PCBs (sum of all PCB isomers, or all Aroclors)	1336-36-3	0.10	10
Pebulate	1114-71-2	0.042	1.4
Pentachlorobenzene	608-93-5	0.055	10
PeCDDs (All Pentachlorodibenzo-p-dioxins)	NA	0.000063	0.001
PeCDFs (All Pentachlorodibenzofurans)	NA	0.000035	0.001
Pentachloroethane	76-01-7	0.055	6.0
Pentachloronitrobenzene	82-68-8	0.055	4.8
Pentachlorophenol	87-86-5	0.089	7.4
Phenacetin	62-44-2	0.081	16
Phenanthrene	85-01-8	0.059	5.6
Phenol	108-95-2	0.039	6.2
Phorate	298-02-2	0.021	4.6
Phthalic acid	100-21-0	0.055	28
Phthalic anhydride	85-44-9	0.055	28
Physostigmine	57-47-6	0.056	1.4
Physostigmine salicylate	57-64-7	0.056	1.4
Promecarb	2631-37-0	0.056	1.4
Pronamide	23950-58-5	0.093	1.5
Propham	122-42-9	0.056	1.4
Propoxur	114-26-1	0.056	1.4
Prosulfocarb	52888-80-9	0.042	1.4
Pyrene	129-00-0	0.067	8.2
Pyridine	110-86-1	0.014	16
Safrole	94-59-7	0.081	22
Silvex/2,4,5-TP	93-72-1	0.72	7.9
1,2,4,5-Tetrachlorobenzene	95-94-3	0.055	14
TCDDs (All Tetrachlorodibenzo-p-dioxins)	NA	0.000063	0.001
TCDFs (All Tetrachlorodibenzofurans)	NA	0.000063	0.001
1,1,1,2-Tetrachloroethane	630-20-6	0.057	6.0
1,1,2,2-Tetrachloroethane	79-34-5	0.057	6.0
Tetrachloroethylene	127-18-4	0.056	6.0
2,3,4,6-Tetrachlorophenol	58-90-2	0.030	7.4
Thiodicarb	59669-26-0	0.019	1.4
Thiophanate-methyl	23564-05-8	0.056	1.4
Toluene	108-88-3	0.080	10
Toxaphene	8001-35-2	0.0095	2.6
Triallate	2303-17-5	0.042	1.4
Tribromomethane/Bromoform	75-25-2	0.63	15
1,2,4-Trichlorobenzene	120-82-1	0.055	19
1,1,1-Trichloroethane	71-55-6	0.054	6.0
1,1,2-Trichloroethane	79-00-5	0.054	6.0
Trichloroethylene	79-01-6	0.054	6.0
Trichlorofluoromethane	75-69-4	0.020	30
2,4,5-Trichlorophenol	95-95-4	0.18	7.4
2,4,6-Trichlorophenol	88-06-2	0.035	7.4
2,4,5-Trichlorophenoxyacetic acid/ 2,4,5-T	93-76-5	0.72	7.9
1,2,3-Trichloropropane	96-18-4	0.85	30
1,1,2-Trichloro-1,2,2-trifluoroethane	76-13-1	0.057	30
Triethylamine	121-44-8	0.081	1.5
Tris(2,3-Dibromopropyl) phosphate	126-72-7	0.11	0.1
Vernolate	1929-77-7	0.042	1.4
Vinyl chloride	75-01-4	0.27	6.0
Xylenes-mixed isomers (sum of o-, m-, and p-xylene concentrations)	1330-20-7	0.32	30
Inorganic Constituents:			
Antimony	7440-36-0	1.9	1.15 mg/L TCLP
Arsenic	7440-38-2	1.4	5.0 mg/L TCLP
Barium	7440-39-3	1.2	21 mg/L TCLP
Beryllium	7440-41-7	0.82	1.22 mg/L TCLP
Cadmium	7440-43-9	0.69	0.11 mg/L TCLP

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Chromium (Total)	7440-47-3	2.77	0.60 mg/L TCLP
Cyanides (Total) <sup>4</sup>	57-12-5	1.2	590
Cyanides (Amenable) <sup>4</sup>	57-12-5	0.86	30
Lead	7439-92-1	0.69	0.75 mg/L TCLP
Mercury-Non-aqueous waste from Retort	7439-97-6	NA	0.20 mg/L TCLP
Mercury-All Others	7439-97-6	0.15	0.025 mg/L TCLP
Nickel	7440-02-0	3.98	11 mg/L TCLP
Silver	7440-22-4	0.43	0.14 mg/L TCLP
Thallium	7440-28-0	1.4	0.20 mg/L TCLP

### Notes to Schedule 6:

<sup>1</sup> CAS Number means the Chemical Abstracts Service Registry Number. When the waste or a regulated constituent is described as a combination of a chemical with its salts or esters, the CAS number is given for the parent compound only.

<sup>2</sup> Concentration requirements for aqueous wastes are expressed in mg/L and are based on analysis of composite samples.

<sup>3</sup> Concentration requirements for non-aqueous wastes are based on analysis of grab samples.

<sup>4</sup> Both Cyanides (Total) and Cyanides (Amenable) for non-aqueous wastes are to be analyzed using Method 9010 or 9012, found in “Test Methods for Evaluating Solid Waste, Physical/ Chemical Methods”, United States Environmental Protection Agency Publication SW-846, with a sample size of 10 grams and a distillation time of one hour and 15 minutes.

## **Schedule 7 – Treatment Methods and Standards**

### **[Appendix A](#)**

## **Schedule 7 – Treatment Methods and Standards**



## Schedule 7 – Treatment Methods and Standards

Treatment Code	Treatment Method and Treatment Standard
ADGAS	Venting of compressed gases into an absorbing or reacting medium (i.e., solid or liquid) — venting can be accomplished through physical release utilizing valves/piping; physical penetration of the container; or penetration through detonation.
AMLGM	Amalgamation of liquid, elemental mercury contaminated with radioactive materials utilizing inorganic reagents such as copper, zinc, nickel, gold, and sulphur that result in a nonliquid, semi-solid amalgam and thereby reducing potential emissions of elemental mercury vapors to the air.
BIODG	Biodegradation of organics or non-metallic inorganics (i.e., degradable inorganics that contain the elements of phosphorus, nitrogen, and sulphur) in units operated under either aerobic or anaerobic conditions such that a surrogate compound or indicator parameter has been substantially reduced in concentration in the residuals (e.g., Total Organic Carbon can often be used as an indicator parameter for the biodegradation of many organic constituents that cannot be directly analyzed in aqueous waste residues).
CARBON	Carbon adsorption (granulated or powdered) of non-metallic inorganics, organo-metallics, or organic constituents, operated such that a surrogate compound or indicator parameter has not undergone breakthrough (e.g., Total Organic Carbon can often be used as an indicator parameter for the adsorption of many organic constituents that cannot be directly analyzed in aqueous waste residues). Breakthrough occurs when the carbon has become saturated with the constituent (or indicator parameter) and substantial change in adsorption rate associated with that constituent occurs.
CHOXD	Chemical or electrolytic oxidation utilizing the following oxidation reagents (or waste reagents) or combinations of reagents: (1) Hypochlorite (e.g., bleach); (2) chlorine; (3) chlorine dioxide; (4) ozone or UV (ultraviolet light) assisted ozone; (5) peroxides; (6) persulphates; (7) perchlorates; (8) permangantes; or (9) other oxidizing reagents of equivalent efficiency, performed in units operated such that a surrogate compound or indicator parameter has been substantially reduced in concentration in the residuals (e.g., Total Organic Carbon can often be used as an indicator parameter for the oxidation of many organic constituents that cannot be directly analyzed in aqueous waste residues). Chemical oxidation specifically includes what is commonly referred to as alkaline chlorination.
CHRED	Chemical reduction utilizing the following reducing reagents (or waste reagents) or combinations of reagents: (1) Sulphur dioxide; (2) sodium, potassium, or alkali salts or sulphites, bisulphites, metabisulphites, and polyethylene glycols (e.g., NaPEG and KPEG); (3) sodium hydrosulphide; (4) ferrous salts; or (5) other reducing reagents of equivalent efficiency, performed in units operated such that a surrogate compound or indicator parameter has been substantially reduced in concentration in the residuals (e.g., Total Organic Halogens can often be used as an indicator parameter for the reduction of many halogenated organic constituents that cannot be directly analyzed in aqueous waste residues). Chemical reduction is commonly used for the reduction of hexavalent chromium to the trivalent state.
CMBST	High temperature organic destruction technologies, such as combustion in incinerators, boilers, industrial furnaces; and certain non-combustive technologies, such as the Catalytic Extraction Process.
DEACT	Deactivation to remove the hazardous characteristics of a waste due to its ignitability, corrosivity, or reactivity.
FSUBS	Fuel substitution in units operated in accordance with applicable technical operating requirements.
HLVIT	Vitrification of high level mixed radioactive wastes in units in compliance with all applicable radioactive protection requirements under control of the Canadian Nuclear Safety Commission.
IMERC	Incineration of wastes containing organics and mercury. All aqueous waste and non-aqueous waste residues derived from this process must then comply with the corresponding treatment standards per waste code with consideration of any applicable subcategories (e.g., High or Low Mercury Subcategories).
INCIN	Incineration.
LLEXT	Liquid-liquid extraction (often referred to as solvent extraction) of organics from liquid wastes into an immiscible solvent for which the regulated constituents have a greater solvent affinity, resulting in an extract high in organics that must undergo either incineration, reuse as a fuel, or other recovery/reuse and a raffinate (extracted liquid waste) proportionately low in organics that must undergo further treatment as specified in the standard.
MACRO	Macroencapsulation with surface coating materials such as polymeric organics (e.g., resins and plastics) or with a jacket of inert inorganic materials to substantially reduce surface exposure to potential leaching media. Macroencapsulation specifically does not include any material that would be classified as a tank or container.
NEUTR	Neutralization with the following reagents (or waste reagents) or combinations of reagents: (1) Acids; (2) bases; or (3) water (including aqueous wastes) resulting in a pH greater than 2 but less than 12.5 as measured in the aqueous residuals.
NLDBR	No land disposal based on recycling.
POLYM	Formation of complex high-molecular weight solids through polymerization of monomers in high-TOC D001 non-aqueous wastes which are chemical components in the manufacture of plastics.
PRECP	Chemical precipitation of metals and other inorganics as insoluble precipitates of oxides, hydroxides, carbonates, sulphides, sulphates, chlorides, fluorides, or phosphates. The following reagents (or waste reagents) are typically used alone or in combination: (1) Lime (i.e., containing oxides or hydroxides of calcium or magnesium); (2) caustic (i.e., sodium or potassium hydroxides); (3) soda ash (i.e., sodium carbonate); (4) sodium sulphide; (5) ferric sulphate or ferric chloride; (6) alum; or (7) sodium sulphate. Additional flocculating, coagulation or similar reagents/ processes that enhance sludge dewatering characteristics are not precluded from use.
RBERY	Thermal recovery of Beryllium.
RCGAS	Recovery/reuse of compressed gases including techniques such as reprocessing of the gases for reuse/resale; filtering/adsorption of impurities; remixing for direct reuse or resale; and use of the gas as a fuel source.
RCORR	Recovery of acids or bases utilizing one or more of the following recovery technologies: (1) Distillation (i.e., thermal concentration); (2) ion exchange; (3) resin or solid adsorption; (4) reverse osmosis; or (5) incineration for the recovery of acid — Note: this does not preclude the use of other physical phase separation or concentration

## Schedule 7 – Treatment Methods and Standards

Treatment Code	Treatment Method and Treatment Standard
	techniques such as decantation, filtration (including ultrafiltration), and centrifugation, when used in conjunction with the above listed recovery technologies.
RLEAD	Thermal recovery of lead in secondary lead smelters.
RMERC	Retorting or roasting in a thermal processing unit capable of volatilizing mercury and subsequently condensing the volatilized mercury for recovery. All aqueous waste and non-aqueous waste residues derived from this process must then comply with the corresponding treatment standards per waste code with consideration of any applicable subcategories (e.g., High or Low Mercury Subcategories).
RMETL	Recovery of metals or inorganics utilizing one or more of the following technologies: (1) Ion exchange; (2) resin or solid (i.e., zeolites) adsorption; (3) reverse osmosis; (4) chelation/solvent extraction; (5) freeze crystallization; (6) ultrafiltration or (7) simple precipitation (i.e., crystallization) — Note: This does not preclude the use of other physical phase separation or concentration techniques such as decantation, filtration (including ultrafiltration), and centrifugation, when used in conjunction with the above listed recovery technologies.
RORGS	Recovery of organics utilizing one or more of the following technologies: (1) Distillation; (2) thin film evaporation; (3) steam stripping; (4) carbon adsorption; (5) critical fluid extraction; (6) liquid-liquid extraction; (7) precipitation/crystallization (including freeze crystallization); or (8) chemical phase separation techniques (i.e., addition of acids, bases, demulsifiers, or similar chemicals); — Note: this does not preclude the use of other physical phase separation techniques such as decantation, filtration (including ultrafiltration), and centrifugation, when used in conjunction with the above listed recovery technologies.
RTHRM	Thermal recovery of metals or inorganics from non-aqueous wastes in units identified as industrial furnaces.
RZINC	Resmelting in high temperature metal recovery units for the purpose of recovery of zinc.
STABL	Stabilization with the following reagents (or waste reagents) or combinations of reagents: (1) Portland cement; or (2) lime/pozzolans (e.g., fly ash and cement kiln dust) — this does not preclude the addition of reagents (e.g., iron salts, silicates, and clays) designed to enhance the set/cure time or compressive strength, or to overall reduce the leachability of the metal or inorganic.
SSTRP	Steam stripping of organics from liquid wastes utilizing direct application of steam to the wastes operated such that liquid and vapor flow rates, as well as temperature and pressure ranges have been optimized, monitored, and maintained. These operating parameters are dependent upon the design parameters of the unit such as the number of separation stages and the internal column design. This results in a condensed extract high in organics that must undergo either incineration, reuse as a fuel, or other recovery/reuse and an extracted aqueous waste that must undergo further treatment as specified in the standard.
WETOX	Wet air oxidation performed in units operated such that a surrogate compound or indicator parameter has been substantially reduced in concentration in the residuals (e.g., Total Organic Carbon can often be used as an indicator parameter for the oxidation of many organic constituents that cannot be directly analyzed in aqueous waste residues).
WTRRX	Controlled reaction with water for highly reactive inorganic or organic chemicals with precautionary controls for protection of workers from potential violent reactions as well as precautionary controls for potential emissions of toxic/ignitable levels of gases released during the reaction.

## **Schedule 8 – Alternative Treatment for Hazardous Debris**

### **Appendix A**

## **Schedule 8 – Alternative Treatment for Hazardous Debris**

## Schedule 8 – Alternative Treatment for Hazardous Debris

Treatment Method	Standard	Restrictions <sup>1</sup>
<b>A. EXTRACTION TECHNOLOGIES:</b>		
<i>1. Physical Extraction</i>		
<b>a. Abrasive Blasting:</b>		
Removal of contaminated debris surface layers using water or air pressure to propel a solid abrasive (e.g., steel shot, aluminum oxide grit, plastic beads).	For Glass, Metal, Plastic, Rubber: Treatment to a clean debris surface <sup>2</sup> . For Brick, Cloth, Concrete, Paper, Pavement, Rock, Wood: Removal of at least 0.6 cm of the surface layer; treatment to a clean debris surface <sup>2</sup> .	No Restrictions
<b>b. Scarification, Grinding, and Planing</b>		
Process utilizing striking piston heads, saws, or rotating grinding wheels such that contaminated debris surface layers are removed.	For Glass, Metal, Plastic, Rubber: Treatment to a clean debris surface <sup>2</sup> . For Brick, Cloth, Concrete, Paper, Pavement, Rock, Wood: Removal of at least 0.6 cm of the surface layer; treatment to a clean debris surface <sup>2</sup> .	No Restrictions
<b>c. Spalling:</b>		
Drilling or chipping holes at appropriate locations and depth in the contaminated debris surface and applying a tool which exerts a force on the sides of those holes such that the surface layer is removed. The surface layer removed remains subject to the debris treatment standards.	For Glass, Metal, Plastic, Rubber: Treatment to a clean debris surface <sup>2</sup> . For Brick, Cloth, Concrete, Paper, Pavement, Rock, Wood: Removal of at least 0.6 cm of the surface layer; treatment to a clean debris surface <sup>2</sup> .	No Restrictions
<b>d. Vibratory Finishing:</b>		
Process utilizing scrubbing media, flushing fluid, and oscillating energy such that hazardous contaminants or contaminated debris surface layers are removed.	For Glass, Metal, Plastic, Rubber: Treatment to a clean debris surface <sup>2</sup> . For Brick, Cloth, Concrete, Paper, Pavement, Rock, Wood: Removal of at least 0.6 cm of the surface layer; treatment to a clean debris surface <sup>2</sup> .	No Restrictions
<b>e. High Pressure Steam and Water Sprays:</b>		
Application of water or steam sprays of sufficient temperature, pressure, residence time, agitation, surfactants, and detergents to remove hazardous contaminants from debris surfaces or to remove contaminated debris surface layers.	For Glass, Metal, Plastic, Rubber: Treatment to a clean debris surface <sup>2</sup> . For Brick, Cloth, Concrete, Paper, Pavement, Rock, Wood: Removal of at least 0.6 cm of the surface layer; treatment to a clean debris surface <sup>2</sup> .	No Restrictions
<i>2. Chemical Extraction</i>		
<b>a. Water Washing and Spraying:</b>		
Application of water sprays or water baths of sufficient temperature, pressure, residence time, agitation, surfactants, acids, bases, and detergents to remove hazardous contaminants from debris surfaces and surface pores or to remove contaminated debris surface layers.	For all Debris: Treatment to a clean debris surface <sup>2</sup> ; For Brick, Cloth, Concrete, Paper, Pavement, Rock, Wood: Debris must be no more than 1.2 cm (½ inch) in one dimension (i.e., thickness limit) <sup>3</sup> ; debris surfaces must be in contact with water solution for at least 15 minutes; For debris contaminated with a dioxin-characteristic waste, treatment must be carried out in accordance with a Certificate of Approval, despite any exemptions that might otherwise apply.	For Brick, Cloth, Concrete, Paper, Pavement, Rock, Wood: Restricted unless the contaminant is soluble to at least 5% by weight in water solution or 5% by weight in emulsion.
<b>b. Liquid Phase Solvent Extraction:</b>		
Removal of hazardous contaminants from debris surfaces and surface pores by applying a non-aqueous liquid or liquid solution which causes the hazardous contaminants to enter the liquid phase and be flushed away from the debris along with the liquid or liquid solution while using appropriate agitation, temperature, and residence time.	For all Debris: Treatment to a clean debris surface <sup>2</sup> ; For Brick, Cloth, Concrete, Paper, Pavement, Rock, Wood: Debris must be no more than 1.2 cm (½ inch) in one dimension (i.e., thickness limit) <sup>3</sup> ; debris surfaces must be in contact with water solution for at least 15 minutes; For debris contaminated with a dioxin-characteristic waste, treatment must be carried out in accordance with a Certificate of Approval, despite any exemptions that might otherwise apply.	For Brick, Cloth, Concrete, Paper, Pavement, Rock, Wood: Restricted unless the contaminant is soluble to at least 5% by weight in the solvent.
<b>c. Vapor Phase Solvent Extraction:</b>		
Application of an organic vapor using sufficient agitation,	For all Debris: Treatment to a clean debris	For Brick, Cloth, Concrete,

## Schedule 8 – Alternative Treatment for Hazardous Debris

Treatment Method	Standard	Restrictions <sup>1</sup>
residence time, and temperature to cause hazardous contaminants on contaminated debris surfaces and surface pores to enter the vapor phase and be flushed away with the organic vapor.	surface <sup>2</sup> ; For Brick, Cloth, Concrete, Paper, Pavement, Rock, Wood: Debris must be no more than 1.2 cm (½ inch) in one dimension (i.e., thickness limit) <sup>3</sup> ; debris surfaces must be in contact with the organic vapor for at least 60 minutes; For debris contaminated with a dioxin-characteristic waste, treatment must be carried out in accordance with a Certificate of Approval, despite any exemptions that might otherwise apply.	Paper, Pavement, Rock, Wood: Restricted unless the contaminant is soluble to at least 5% by weight in the solvent.
<b>3. Thermal Extraction</b>		
<b>a. High Temperature Metals Recovery:</b>		
Application of sufficient heat, residence time, mixing, fluxing agents, or carbon in a smelting, melting, or refining furnace to separate metals from debris.	Separate metal from treated debris; For debris contaminated with a dioxin-characteristic waste, treatment must be carried out in accordance with a Certificate of Approval, despite any exemptions that might otherwise apply.	
<b>b. Thermal Desorption:</b>		
Heating in an enclosed chamber under either oxidizing or nonoxidizing atmospheres at sufficient temperature and residence time to vaporize hazardous contaminants from contaminated surfaces and surface pores and to remove the contaminants from the heating chamber in a gaseous exhaust gas.	For all Debris: Vaporize hazardous contaminants from contaminated surfaces and surface pores and remove the contaminants from the heating chamber in a gaseous exhaust gas. This must be done in accordance with a Certificate of Approval, despite any exemptions that might otherwise apply. For Brick, Cloth, Concrete, Paper, Pavement, Rock, Wood: Debris must be no more than 10 cm (4 inches) in one dimension (i.e., thickness limit) <sup>3</sup> .	For all Debris: Restricted for metal contaminants other than mercury.
<b>B. DESTRUCTION TECHNOLOGIES:</b>		
<b>1. Biological Destruction (Biodegradation)</b>		
Removal of hazardous contaminants from debris surfaces and surface pores in an aqueous solution and biodegradation of organic or nonmetallic inorganic compounds (i.e., inorganics that contain phosphorus, nitrogen, or sulphur) in units operated under either aerobic or anaerobic conditions.	For all Debris: Removal of hazardous contaminants and biodegradation of organic or nonmetallic inorganic compounds. This must be done in accordance with a Certificate of Approval, despite any exemptions that might otherwise apply. For Brick, Cloth, Concrete, Paper, Pavement, Rock, Wood: Debris must be no more than 1.2 cm (1½ inch) in one dimension (i.e., thickness limit) <sup>3</sup> .	For all Debris: Restricted for metal contaminants.
<b>2. Chemical Destruction</b>		
<b>a. Chemical Oxidation:</b>		
Chemical or electrolytic oxidation utilizing the following oxidation reagents (or waste reagents) or combination of reagents: - hypochlorite (e.g., bleach); - chlorine; - chlorine dioxide; - ozone or UV (ultraviolet light) assisted ozone; - peroxides; - persulphates; - perchlorates; - permanganates; - other oxidizing reagents of equivalent destruction efficiency. Chemical oxidation specifically includes what is referred to as alkaline chlorination.	For all Debris: Chemical or electrolytic oxidation. This must be done in accordance with a Certificate of Approval, despite any exemptions that might otherwise apply. For Brick, Cloth, Concrete, Paper, Pavement, Rock, Wood: Debris must be no more than 1.2 cm (1½ inch) in one dimension (i.e., thickness limit) <sup>3</sup> .	For all Debris: Restricted for metal contaminants.
<b>b. Chemical Reduction:</b>		
Chemical reaction utilizing the following reducing reagents (or waste reagents) or combination of reagents: - sulphur dioxide; - sodium, potassium, or alkali salts of sulphites, bisulphites, and metabisulphites, and polyethylene	For all Debris: Chemical Reduction. This must be done in accordance with a Certificate of Approval, despite any exemptions that might otherwise apply. For Brick, Cloth, Concrete, Paper,	For all Debris: Restricted for metal contaminants.

## Schedule 8 – Alternative Treatment for Hazardous Debris

Treatment Method	Standard	Restrictions <sup>1</sup>
glycols (e.g., NaPEG and KPEG); - sodium hydrosulphide; - ferrous salts; - other reducing reagents of equivalent efficiency.	Pavement, Rock, Wood: Debris must be no more than 1.2 cm (1½ inch) in one dimension (i.e., thickness limit) <sup>3</sup> .	
<b>3. Thermal Destruction:</b>		
Thermal treatment, excluding Thermal Desorption units.	For all Debris: Thermal destruction or vitrification. This must be done in accordance with a Certificate of Approval, despite any exemptions that might otherwise apply.	For Brick, Concrete, Glass, Metal, Pavement, Rock: Restricted for metal contaminants other than mercury, except that there are no metal restrictions for vitrification.
<b>C. IMMOBILIZATION TECHNOLOGIES:</b>		
<b>1. Macroencapsulation:</b>		
Application of surface coating materials such as polymeric organics (e.g., resins and plastics) or use of a jacket of inert inorganic materials to substantially reduce surface exposure to potential leaching media.	Encapsulating material must completely encapsulate debris and be resistant to degradation by the debris and its contaminants and materials into which it may come into contact after placement (leachate, other waste, microbes), and substantially reduce surface exposure to potential leaching media.	No Restrictions
<b>2. Microencapsulation:</b>		
Stabilization of the debris with the following reagents (or waste reagents) such that the leachability of the contaminants is reduced: - Portland cement; - lime/pozzolans (e.g., fly ash and cement kiln dust). Reagents (e.g., iron salts, silicates, and clays) may be added to enhance the set/cure time or compressive strength, or to reduce the leachability of the contaminants. <sup>3</sup>	Leachability of the contaminants must be reduced.	No Restrictions
<b>3. Sealing:</b>		
Application of an appropriate material which adheres tightly to the debris surface to avoid exposure of the surface to potential leaching media. When necessary to effectively seal the surface, sealing entails pretreatment of the debris surface to remove foreign matter and to clean and roughen the surface. Sealing materials include epoxy, silicone, and urethane compounds, but paint may not be used as a sealant.	Sealing must avoid exposure of the debris surface to potential leaching media and sealant must be resistant to degradation by the debris and its contaminants and materials into which it may come into contact after placement (leachate, other waste, microbes).	No Restrictions

### Notes to Schedule 8:

<sup>1</sup> Where a contaminant restriction is set out for a treatment method and type of debris, the use of that treatment method is not sufficient if that type of debris contains the restricted contaminant. If the restricted treatment is used, the debris must also be treated by another treatment method that is described in the Schedule and for which no restriction is set out for that type of debris and contaminant.

<sup>2</sup> “Clean debris surface” means that the surface, when viewed without magnification, must be free of all visible contaminated soil and hazardous waste, except that residual staining from soil and waste that consists of light shadows, slight streaks or minor discolorations may be present, and soil and waste in cracks, crevices or pits may be present, if the residual staining or the waste and soil in cracks, crevices or pits is limited to not more than 5% of each square inch of surface area.

<sup>3</sup> If reducing the particle size of debris to meet the treatment standards results in material that no longer meets the 60 mm minimum particle size limit for debris, the material is subject to the waste-specific treatment standards for the waste contaminating the material, unless the debris has been cleaned and separated from contaminated soil and waste prior to size reduction. Alternative thickness limits may be used by obtaining a Certificate of Approval.

**Schedule 9 – Test Method for the Determination of “Liquid Waste” (Slump Test)**

**[Appendix A](#)**

**Schedule 9 – Test Method for the Determination of “Liquid Waste” (Slump Test)**

## Schedule 9 – Test Method for the Determination of “Liquid Waste” (Slump Test)

### TEST METHOD FOR THE DETERMINATION OF "LIQUID WASTE" (SLUMP TEST)<sup>1</sup>

#### (1) Sampling

Obtain a representative sample of the waste to be tested.

#### (2) Equipment

2.1 Mould - the representative waste sample shall be formed in a mould, in the form of the frustum of a cone with the base 200 mm in diameter, the top 100 mm in diameter, and the height 300 mm. The base and the top shall be open and parallel to each other and at right angles to the axis of the cone. The mould shall be made of a metal that is chemically resistant to the wastes to be tested and that has a thickness that is at least 1.5 mm. It shall be provided with foot pieces and handles as shown in Figure 1.

2.2 Tamping Rod - the rod shall be round, straight and steel with a diameter of 16 mm and a length of 600 mm. One end shall be rounded to a hemispherical tip with a diameter of 16 mm.

#### (3) Procedure

3.1 Dampen the mould and place it on a flat, moist, non-absorbent (rigid) surface. Hold the mould firmly in place during filling by standing on the two foot pieces. From the sample of the material obtained, immediately fill the mould in three layers, each approximately one-third the volume of the mould.

Notes:

- 1) The test must be carried out at a temperature of not less than 10°C.
- 2) One-third of the volume of the slump mould fills it to a depth of 70 mm. Two-thirds of the volume fills it to a depth of 160 mm.

3.2 Rod each layer with 25 strokes of the tamping rod. Uniformly distribute the strokes over the cross-section of each layer. For the bottom layer this will necessitate inclining the rod slightly and making approximately half of the strokes near the perimeter, and then progressing with vertical strokes spirally toward the center. Rod layers throughout their depth. For the second layer and the top layer, the strokes must just penetrate into the underlying layers.

3.3 When filling and rodding the top layer, heap the material above the mould before rodding is started. If the rodding operation results in subsidence of the material below the top edge of the mould, add additional material to maintain an excess of material above the top of the mould. After the top layer has been rodded, the excess material shall be screeded off to the level of the top of the mould. Remove the spilled material from the base of the mould.

3.4 Withdraw the mould immediately from the material by raising it carefully in a vertical direction. The operation of raising the mould shall be performed in approximately 5 seconds by a steady upward lift with no lateral or torsional motion. The entire operation from the start of the filling through removal of the mould shall be carried out without interruption and shall be completed within 2 minutes.

3.5 Determine the slump immediately after by measuring the difference between the height of the mould and the average height of the top surface of the material after subsidence.

Notes:

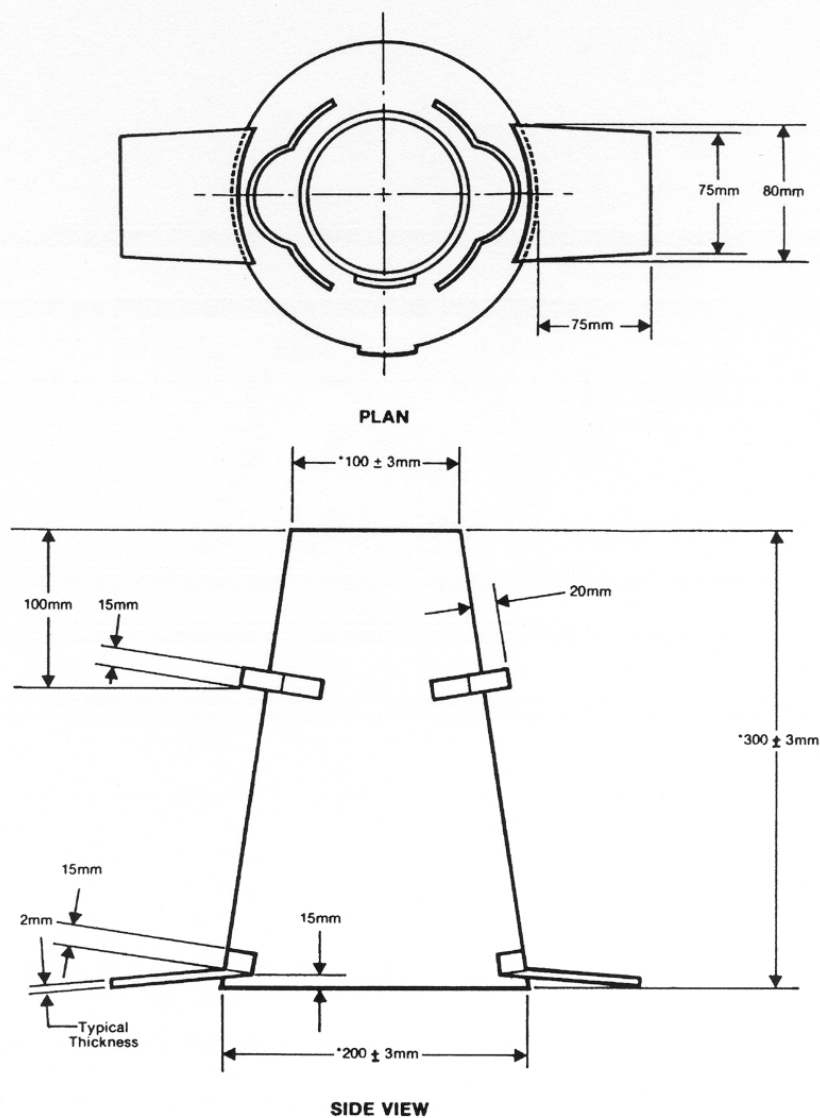
- 1) Waste samples that break or slump laterally give incorrect results. When this condition occurs, the test shall be repeated with a new sample.
- 2) If two consecutive tests on a sample of material show a falling away or shearing off of a portion of the material from the mass of the specimen, the material probably lacks necessary plasticity and cohesiveness for the slump test to be applicable.
- 3) Duplicate tests on two different portions of the sample should not vary more than 10 mm.

#### (4) Report

4.1 Record the slump in millimeters to the nearest 10 mm of subsidence of the sample during the test.



## Schedule 9 – Test Method for the Determination of “Liquid Waste” (Slump Test)



**FIGURE 1  
MOULD FOR SLUMP TEST**

Except where indicated by an asterisk, all measurements are approximate.

<sup>1</sup> The method is based on the Canadian Standards Association test method for determining the slump of concrete (A23.2-5C)

**Schedule 10 – Hazardous Industrial Wastes requiring treatment before land disposal as of  
August 31, 2007**

**[Appendix A](#)**

**Schedule 10 – Hazardous Industrial Wastes requiring treatment before land disposal  
as of August 31, 2007**

## Schedule 10 – Hazardous Industrial Wastes requiring treatment before land disposal as of August 31, 2007

Haz. Waste Number <sup>1</sup>	Hazardous Industrial Waste
F006	Wastewater treatment sludges from electroplating operations except from the following processes: (1) Sulfuric acid anodizing of aluminum; (2) tin plating on carbon steel; (3) zinc plating (segregated basis) on carbon steel; (4) aluminum or zinc-aluminum plating on carbon steel; (5) cleaning/stripping associated with tin, zinc and aluminum plating on carbon steel; and (6) chemical etching and milling of aluminum.
F007	Spent cyanide plating bath solutions from electroplating operations
F008	Plating bath residues from the bottom of plating baths from electroplating operations where cyanides are used in the process.
F009	Spent stripping and cleaning bath solutions from electroplating operations where cyanides are used in the process.
F010	Quenching bath residues from oil baths from metal heat treating operations where cyanides are used in the process.
F011	Spent cyanide solutions from salt bath pot cleaning from metal heat treating operations.
F012	Quenching waste water treatment sludges from metal heat treating operations where cyanides are used in the process.
F019	Wastewater treatment sludges from the chemical conversion coating of aluminum except from zirconium phosphating in aluminum can washing when such phosphating is an exclusive conversion coating process.
F020	Wastes (except wastewater and spent carbon from hydrogen chloride purification) from the production or manufacturing use (as a reactant, chemical intermediate, or component in a formulating process) of tri- or tetrachlorophenol, or of intermediates used to produce their pesticide derivatives. (This listing does not include wastes from the production of Hexachlorophene from highly purified 2,4,5- trichlorophenol.).
F035	Wastewaters (except those that have not come into contact with process contaminants), process residuals, preservative drippage, and spent formulations from wood preserving processes generated at plants that use inorganic preservatives containing arsenic or chromium. This listing does not include K001 bottom sediment sludge from the treatment of wastewater from wood preserving processes that use creosote and/or pentachlorophenol.
K002	Wastewater treatment sludge from the production of chrome yellow and orange pigments.
K003	Wastewater treatment sludge from the production of molybdate orange pigments.
K004	Wastewater treatment sludge from the production of zinc yellow pigments.
K005	Wastewater treatment sludge from the production of chrome green pigments.
K006	Wastewater treatment sludge from the production of chrome oxide green pigments (anhydrous and hydrated).
K007	Wastewater treatment sludge from the production of iron blue pigments.
K008	Oven residue from the production of chrome oxide green pigments.
K031	Byproduct salts generated in the production of MSMA and cacodylic acid.
K046	Wastewater treatment sludges from the manufacturing formulation and loading of leadbased initiating compounds.
K061	Emission control dust/sludge from the primary production of steel in electric furnaces.
K062	Spent pickle liquor generated by steel finishing operations within the iron and steel industry at steel works, blast furnaces (including coke ovens), rolling mills, iron and steel foundries, gray and ductile iron foundries, malleable iron foundries, steel investment foundries or other miscellaneous steel foundries or at facilities in the electrometallurgical products (except steel) industry, steel wire drawing and steel nails and spikes industry, cold-rolled steel sheet, strip and bars industry, or steel pipe and tubes industry.
K069	Emission control dust/sludge from secondary lead smelting, not including sludge generated from secondary acid scrubber systems.
K071	Brine purification muds from the mercury cell process in chlorine production, where separately prepurified brine is not used.
K084	Wastewater treatment sludges generated during the production of veterinary pharmaceuticals from arsenic or organoarsenic compounds.
K100	Waste leaching solution from acid leaching of emission control dust/sludge from secondary lead smelting.
K106	Wastewater treatment sludge from the mercury cell process in chlorine production.
K175	Wastewater treatment sludge from the production of vinyl chloride monomer using mercuric chloride catalyst in an acetylene-based process
K176	Baghouse filters from the production of antimony oxide, including filters from the production of intermediates (e.g., antimony metal or crude antimony oxide)
K177	Slag from the production of antimony oxide that is speculatively accumulated or disposed, including slag from the production of intermediates (e.g., antimony metal or crude antimony oxide)

### Notes to Schedule 10:

<sup>1</sup> Haz. Waste Number means Hazardous Waste Number. These numbers are consistent with United States Environmental Protection Agency Hazardous Waste Numbers. If there is no United States Environmental Protection Agency Hazardous Waste Number for a waste, the Hazardous Waste Number is assigned to the waste by the Ontario Ministry of the Environment.

**Schedule 11- Acute Hazardous Waste Chemicals requiring treatment before land disposal as of August 31, 2007**

**[Appendix A](#)**

**Schedule 11 – Acute Hazardous Waste Chemicals requiring treatment before land disposal as of August 31, 2007**

**Schedule 11- Acute Hazardous Waste Chemicals requiring treatment before land disposal as of  
August 31, 2007**

Haz. Waste Number <sup>1</sup>	CAS Number <sup>2</sup>	Acute Hazardous Waste Chemical
P006	20859-73-8	Aluminum phosphide
P010	7778-39-4	Arsenic acid H <sub>3</sub> AsO <sub>4</sub>
P011	1303-28-2	Arsenic oxide As <sub>2</sub> O <sub>5</sub>
P011	1303-28-2	Arsenic pentoxide
P012	1327-53-3	Arsenic oxide As <sub>2</sub> O <sub>3</sub>
P012	1327-53-3	Arsenic trioxide
P013	542-62-1	Barium cyanide
P015	7440-41-7	Beryllium powder
P021	592-01-8	Calcium cyanide
P021	592-01-8	Calcium cyanide Ca(CN) <sub>2</sub>
P022	75-15-0	Carbon disulfide
P029	544-92-3	Copper cyanide
P029	544-92-3	Copper cyanide Cu(CN)
P030	N/A	Cyanides (soluble cyanide salts), not otherwise specified
P036	696-28-6	Arsonous dichloride, phenyl-
P036	696-28-6	Dichlorophenylarsine
P038	692-42-2	Arsine, diethyl-
P038	692-42-2	Diethylarsine
P056	7782-41-4	Fluorine
P063	74-90-8	Hydrocyanic acid
P063	74-90-8	Hydrogen cyanide
P065	628-86-4	Fulminic acid, mercury(2+) salt
P065	628-86-4	Mercury fulminate
P073	13463-39-3	Nickel carbonyl
P073	13463-39-3	Nickel carbonyl Ni(CO) <sub>4</sub> , (T-4)-
P074	557-19-7	Nickel cyanide
P074	557-19-7	Nickel cyanide Ni(CN) <sub>2</sub>
P076	10102-43-9	Nitric oxide
P076	10102-43-9	Nitrogen oxide NO
P078	10102-44-0	Nitrogen dioxide
P078	10102-44-0	Nitrogen oxide NO <sub>2</sub>
P087	20816-12-0	Osmium oxide OsO <sub>4</sub> , (T-4)-
P087	20816-12-0	Osmium tetroxide
P092	62-38-4	Mercury, (acetato-O)phenyl-
P092	62-38-4	Phenylmercury acetate
P096	7803-51-2	Hydrogen phosphide
P096	7803-51-2	Phosphine
P098	151-50-8	Potassium cyanide
P098	151-50-8	Potassium cyanide K(CN)
P099	506-61-6	Argentate(1-), bis(cyano-C)-, potassium
P099	506-61-6	Potassium silver cyanide
P103	630-10-4	Selenourea
P104	506-64-9	Silver cyanide
P104	506-64-9	Silver cyanide Ag(CN)
P106	143-33-9	Sodium cyanide
P106	143-33-9	Sodium cyanide Na(CN)
P110	78-00-2	Plumbane, tetraethyl-
P110	78-00-2	Tetraethyl lead
P113	1314-32-5	Thallic oxide
P113	1314-32-5	Thallium oxide Tl <sub>2</sub> O <sub>3</sub>
P114	12039-52-0	Selenious acid, dithallium(1+) salt
P114	12039-52-0	Thallium(I) selenite
P115	7446-18-6	Sulfuric acid, dithallium(1+) salt
P115	7446-18-6	Thallium(I) sulfate
P119	7803-55-6	Ammonium vanadate
P119	7803-55-6	Vanadic acid, ammonium salt
P120	1314-62-1	Vanadium oxide, V <sub>2</sub> O <sub>5</sub>
P120	1314-62-1	Vanadium pentoxide
P121	557-21-1	Zinc cyanide
P121	557-21-1	Zinc cyanide Zn(CN) <sub>2</sub>
P122	1314-84-7	Zinc phosphide Zn <sub>3</sub> P <sub>2</sub> , when present at concentrations greater than 10%

## **Schedule 11- Acute Hazardous Waste Chemicals requiring treatment before land disposal as of August 31, 2007**

### **Notes to Schedule 11:**

<sup>1</sup> Haz. Waste Number means Hazardous Waste Number. These numbers are consistent with United States Environmental Protection Agency Hazardous Waste Numbers. If there is no United States Environmental Protection Agency Hazardous Waste Number for a waste, the Hazardous Waste Number is assigned to the waste by the Ontario Ministry of the Environment.

<sup>2</sup> CAS Number means the Chemical Abstracts Service Registry Number. When the waste or a regulated constituent is described as a combination of a chemical with its salts or esters, the CAS number is given for the parent compound only.

**Schedule 12 – Hazardous Waste Chemical requiring treatment before land disposal as of  
August 31, 2007**

**[Appendix A](#)**

**Schedule 12 – Hazardous Waste Chemicals requiring treatment before land disposal  
as of August 31, 2007**

## Schedule 12 – Hazardous Waste Chemical requiring treatment before land disposal as of August 31, 2007

Haz. Waste Number <sup>1</sup>	CAS Number <sup>2</sup>	Hazardous Waste Chemical
U032	13765-19-0	Calcium chromate
U032	13765-19-0	Chromic acid H <sub>2</sub> CrO <sub>4</sub> , calcium salt
U134	7664-39-3	Hydrofluoric acid
U134	7664-39-3	Hydrogen fluoride
U135	7783-06-4	Hydrogen sulfide
U135	7783-06-4	Hydrogen sulfide H <sub>2</sub> S
U136	75-60-5	Arsinic acid, dimethyl-
U136	75-60-5	Cacodylic acid
U144	301-04-2	Acetic acid, lead(2+) salt
U144	301-04-2	Lead acetate
U145	7446-27-7	Lead phosphate
U145	7446-27-7	Phosphoric acid, lead(2+) salt (2:3)
U146	1335-32-6	Lead subacetate
U146	1335-32-6	Lead, bis(acetato-O)tetrahydroxytri-
U151	7439-97-6	Mercury
U189	1314-80-3	Phosphorus sulfide
U189	1314-80-3	Sulfur phosphide
U204	7783-00-8	Selenious acid
U204	7783-00-8	Selenium dioxide
U205	7488-56-4	Selenium sulfide
U205	7488-56-4	Selenium sulfide SeS <sub>2</sub>
U214	563-68-8	Acetic acid, thallium(1+) salt
U214	563-68-8	Thallium(I) acetate
U215	6533-73-9	Carbonic acid, dithallium(1+) salt
U215	6533-73-9	Thallium(I) carbonate
U216	7791-12-0	Thallium chloride TlCl
U216	7791-12-0	Thallium(I) chloride
U217	10102-45-1	Nitric acid, thallium(1+) salt
U217	10102-45-1	Thallium(I) nitrate
U249	1314-84-7	Zinc phosphide Zn <sub>3</sub> P <sub>2</sub> , when present at concentrations of 10% or less

### Notes to Schedule 12:

<sup>1</sup> Haz. Waste Number means Hazardous Waste Number. These numbers are consistent with United States Environmental Protection Agency Hazardous Waste Numbers. If there is no United States Environmental Protection Agency Hazardous Waste Number for a waste, the Hazardous Waste Number is assigned to the waste by the Ontario Ministry of the Environment.

<sup>2</sup> CAS Number means the Chemical Abstracts Service Registry Number. When the waste or a regulated constituent is described as a combination of a chemical with its salts or esters, the CAS number is given for the parent compound only.



**Schedule 13 – Characteristic Wastes requiring treatment before land disposal as of  
August 31, 2007**

**[Appendix A](#)**

**Schedule 13 – Characteristic Wastes requiring treatment before land disposal  
as of August 31, 2007**

## Schedule 13 – Characteristic Wastes requiring treatment before land disposal as of August 31, 2007

Haz. Waste Number <sup>1</sup>	Characteristic Waste
D001	Ignitable Characteristic Wastes.
D002	Corrosive Characteristic Wastes.
D003	Reactive Characteristic Wastes.
D004	Wastes that exhibit, or are expected to exhibit, the characteristic of toxicity for arsenic based on the Toxicity Characteristic Leaching Procedure.
D005	Wastes that exhibit, or are expected to exhibit, the characteristic of toxicity for barium based on the Toxicity Characteristic Leaching Procedure.
D006	Wastes that exhibit, or are expected to exhibit, the characteristic of toxicity for cadmium based on the Toxicity Characteristic Leaching Procedure.
D007	Wastes that exhibit, or are expected to exhibit, the characteristic of toxicity for chromium based on the Toxicity Characteristic Leaching Procedure.
D008	Wastes that exhibit, or are expected to exhibit, the characteristic of toxicity for lead based on the Toxicity Characteristic Leaching Procedure.
D009	Wastes that exhibit, or are expected to exhibit, the characteristic of toxicity for mercury based on the Toxicity Characteristic Leaching Procedure.
D010	Wastes that exhibit, or are expected to exhibit, the characteristic of toxicity for selenium based on the Toxicity Characteristic Leaching Procedure.
D011	Wastes that exhibit, or are expected to exhibit, the characteristic of toxicity for silver based on the Toxicity Characteristic Leaching Procedure.
E006	Wastes that exhibit, or are expected to exhibit, the characteristic of toxicity for Cyanide based on the Toxicity Characteristic Leaching Procedure.
E014	Wastes that exhibit, or are expected to exhibit, the characteristic of toxicity for Fluoride based on the Toxicity Characteristic Leaching Procedure.
E104	Wastes that exhibit, or are expected to exhibit, the characteristic of toxicity for Boron based on the Toxicity Characteristic Leaching Procedure.
E118	Wastes that exhibit, or are expected to exhibit, the characteristic of toxicity for Nitrate + Nitrite (as Nitrogen) based on the Toxicity Characteristic Leaching Procedure.
E126	Wastes that exhibit, or are expected to exhibit, the characteristic of toxicity for uranium based on the Toxicity Characteristic Leaching Procedure.

### Notes to Schedule 13:

<sup>1</sup> Haz. Waste Number means Hazardous Waste Number. These numbers are consistent with United States Environmental Protection Agency Hazardous Waste Numbers. If there is no United States Environmental Protection Agency Hazardous Waste Number for a waste, the Hazardous Waste Number is assigned to the waste by the Ontario Ministry of the Environment.

## **Instructions on Submitting a Paper Form of the Generator Registration Report**

### **[Appendix B](#)**

## **Instructions on Submitting a Paper Form of the Generator Registration Report**

## Instructions on Submitting a Paper Form of the Generator Registration Report

Registration can be completed by using a hardcopy of the generator registration report (GRR). A blank copy of the GRR available on the Ministry's website at <http://www.ene.gov.on.ca/envision/gp/4241e.pdf>. Because the GRR may be updated from time to time, generators should print off the most recent version posted on the Ministry website and use that version for their submission. Please use this report to submit:

1. An initial generator registration report
2. An annual generator registration report
3. A supplementary generator registration report (revision to your registration)

Please also ensure that an original signature is used for all paper submissions

**and**

Allow three to four weeks for registration to be completed on the Ministry's electronic registration system. You cannot ship your waste until you are registered and the generator registration document for your facility has been posted on the Ministry's website.

Please see Section 4 of this manual for guidance on the information that should be entered on the GRR. Appendix I provides additional details on the information that may be required as part of the LDR reporting and notification requirements when you are registering as a waste generator.

Information on completing registration using the paper form is provided below. An example of a completed GRR is also included in this Appendix to assist you in filling out the GRR.

### Part 1 – Generator Identification

In the paper form of the GRR, you must first indicate if the report is an initial generator registration report, an annual generator registration report or a supplementary generator registration report (i.e., a revision to your initial generator registration report).

#### Initial Generator Registration Report

If you are submitting your GRR for an Ontario site and it is the first GRR for the site/operation, please check this item. A generator registration number will be issued by the Ministry of the Environment. Please note that the required generator registration fee must accompany your submission.

Applicants located outside Ontario should enter the site identification/registration number assigned by their provincial/state environmental authority, or other number issued by the government of their local jurisdiction, if appropriate. MOE cannot process applications without a number.

For an initial GRR, all sections of the report must be completed.

#### Annual Generator Registration Report

If you are submitting your annual GRR as a waste generator for the current calendar year, please check this item and enter your generator registration number. Please note that the required generator registration fee must accompany your submission.

For an annual GRR, please complete the entire report.

# Instructions on Submitting a Paper Form of the Generator Registration Report

## Supplementary Generator Registration Report (Revision)

If you are submitting a revised GRR and have already registered for the current calendar year, please check this item and enter your generator registration number. No base fee (fixed component of the generator registration fee) is required when you are submitting a supplementary registration.

For a supplementary GRR, please fill out the following parts of the report:

- Part 1, Generator Identification,
- the section(s) of the document that are relevant to the change or revision; and
- Part 6, Certification.

## **Part 2 – Waste Identification (Part 2A) and LDR Notification Form (Part 2B)**

The waste number is the three-digit number (waste class) followed by a single letter (the primary waste characterization) (e.g. 221T).

The hazardous waste number is a letter followed by three numbers that describes your listed or characteristic waste stream (e.g. F006). Hazardous waste numbers are listed in Column 1 of Schedules 1, 2, 3, and 5 (see Appendix A).

### Part 2A

If you are registering using a paper form of the GRR, you must complete Part 2A for each waste stream generated at a facility, even if you will be registering several waste streams using the same waste number (waste class and characterization).

This situation can arise if you have a number of different waste generating processes at your facility that produce similar wastes, or a single waste generating process that produces more than one waste stream that will be registered using the same waste number. In such cases, you need to complete Part 2A separately for each of the waste streams, because the description of the waste and the generating process are different, even though the waste number is the same. For example, you may generate waste from tank bottoms as well as spill clean-up residues that will both be registered using the waste number (e.g., 221T). You are required to register these waste streams individually because they come from different sources with different waste descriptions, despite their common waste number, and they should be managed separately at the waste generation facility.

The descriptions provided for the waste and the generating process must be detailed enough for both the generator and Ministry inspectors to be able to readily identify the individual waste streams and their origins, and to correlate the registration information to the specific wastes and generating processes within the waste generation facility. The waste description should differentiate between two processes in a facility where the wastes are managed separately but registered with the same waste number. For example, the waste description for two processes registered using the same waste number might be “wastewater treatment sludge – leachate toxic for X (i.e., identify the constituents)”, while the waste stream and generating process description might be “sludge containing heavy metals from process #1, building A” and “sludge containing heavy metals from process #3, building C”, respectively.

### Part 2B

Part 2B is designed to include the information that needs to be transferred to the waste receiver in order to meet Ontario’s LDR notification requirements in Regulation 347. If required, Part 2B must be completed for each waste stream that you have registered in Part 2A. Please note that you must complete the questionnaire provided in Part 2A under “Declaration of Waste Streams subject to Land Disposal Restrictions” in order to determine if you need to complete Part 2B. For additional guidance, please see sections 4.1.2 and 4.1.3 of this manual.

## **Instructions on Submitting a Paper Form of the Generator Registration Report**

Part 2B (the LDR Notification Form) can be used to meet the LDR requirement to notify the receiver of information about the hazardous waste. However, when you are completing a paper form of the GRR you need to provide some additional information in Part 2B that links this form to the information in Part 1 and Part 2A. Each Part 2B completed must be dated and include your Generator Registration Number from Part 1, and the waste number (class and characterization) and waste description from Part 2A.

To meet LDR notification requirements, please make a copy of Part 2B and send it to the receiver of the waste on or before the first waste shipment. If there is a change in the characterization of the waste or information related to the LDR reporting and notification requirements, you will need to revise Part 2B, notify the receiver of the change, and submit a supplemental registration to the Ministry. The Part 2B form must therefore always be dated, to distinguish it from any previous notification forms relating to the waste stream. For the annual generator registration report, please submit a copy of the latest Part 2B for the waste stream, or ensure that the Part 2B for the annual report is the same as the latest Part 2B you submitted, including the date.

### **Part 3 – Request for Information**

This part of the GRR should only be completed if you generate waste that meets the regulatory requirements for a recycling exemption, in accordance with subsection 3(2) of Regulation 347. Further details on the request for information section of the report are provided in section 4.1.4 of this manual.

### **Part 4 – Payment**

You must complete the payment portion of the GRR for the initial and annual GRRs. No payment is required for supplementary GRRs (i.e., revisions or changes in your waste description). Further information is provided in section 4.1.5 of this manual.

### **Part 5 – Certification**

All waste generators registering with the Ministry are required to read and agree to the certification statement (user agreement) in Part 6 of the GRR, for all types of registrations being submitted. The paper form of the GRR must bear an original signature. Further information on certification is provided in section 4.1.6 of this manual.

## **Submitting the Completed Generator Registration Report**

Paper forms of the completed GRR along with the required fee should be submitted to the Ministry of the Environment by mailing them to:

Environmental Monitoring & Reporting Branch, Area "M"  
Ontario Ministry of the Environment  
135 St. Clair Avenue West  
Toronto, ON M4V 1P5

(Note this is a mailing address only)

## **Instructions on Submitting a Paper Form of the Generator Registration Report**

### **Registration Confirmation**

When the Ministry receives your completed registration and payment, a registration confirmation will be sent to you by e-mail or by mail, if you have not submitted an e-mail address. You can confirm the Ministry's receipt of your supplementary registrations (revisions) by checking the latest postings on the Ministry's website <https://www.hwin.ca/hwin/index.jsp>, by enquiring at the HWIN Helpdesk at 1-866-HWIN MOE (1-866-494-6663), or by e-mailing the Helpdesk at [helpdesk@hwin.ca](mailto:helpdesk@hwin.ca).

Please allow three to four weeks for the Ministry to complete your registration on its electronic registration system. You are not permitted to ship your waste until you are fully registered and your generator registration document has been posted on the HWIN website.

## **Instructions on Completing a Generator Registration Report On-line**

### **[Appendix B](#)**

## **Instructions on Completing a Generator Registration Report On-line**



## Instructions on Completing a Generator Registration Report On-line

You can complete your registration online by visiting the MOE's "Hazardous Waste Information Network" web site at <https://www.hwin.ca/hwin/index.jsp>. The online registration process provides you with immediate confirmation that you have registered successfully. Online registration is fully secure, and allows you to review and update the information in your GRR at any time. You can go to the HWIN site to submit:

1. An initial generator registration report
2. An annual generator registration report
3. A supplementary generator registration report (revision to your registration)

Please note that online payment for initial generator registration reports can only be made with a valid credit card. After you have completed initial registration successfully, however, you may send cheques and money orders to the Ministry to add funds to your pre-paid account.

Please see documents posted on the HWIN website <https://www.hwin.ca/hwin/index.jsp> for further information on how to complete initial, annual and supplemental generator registration reports online.

## **Example of a Completed Generator Registration Report**

### **[Appendix B](#)**

## **Example of a Completed Generator Registration Report**

## Example of a Completed Generator Registration Report



**Ministry of the Environment**

Part 1 – Generator Identification															
This report is (check one): An initial generator registration report _____ Generator Registration Number _____ An annual generator registration report <u>  X  </u> <u>  ON1234567  </u> A supplementary generator registration report (revision) _____ <div style="text-align: right; font-size: small;">For Ontario generators, a Generator Registration Number will be issued by the Ministry. For generators located outside of Ontario, enter the Registration/Notification number assigned by your local environmental authority.</div>															
<b>Company Details</b>															
Legal Company Name <u>  ABC Company Limited  </u>		Operating Company Name <u>  ABC Company Limited  </u>													
Mailing Address Address _____ Town/City <u>  Toronto  </u> County <u>  Toronto  </u> Province/State _____ Postal Code _____ Country _____ <u>  Ontario  </u> <u>  A1B 2C3  </u> <u>  Canada  </u>															
<b>Site Location</b>															
Site location ( ) Check this box if your site location is the same as the mailing address above Address _____ Town/City _____ County _____ Province/State _____ Postal Code _____ Country _____															
<b>Company Official Details</b>															
<table style="width: 100%; border: none;"> <tr> <td style="width: 25%;">Company Official Mr./Mrs./Ms. <u>  Mr.  </u></td> <td style="width: 25%;">First Name <u>  John  </u></td> <td style="width: 25%;">Initials <u>  P.  </u></td> <td style="width: 25%;">Last Name <u>  Doe  </u></td> </tr> <tr> <td>Position <u>  President  </u></td> <td>Telephone No. <u>  416-123-4567  </u></td> <td>Email Address <u>  john.doe@abccompany.com  </u></td> <td></td> </tr> <tr> <td>User Name <u>  JDoe1  </u></td> <td></td> <td>Password <u>  Guinness  </u></td> <td></td> </tr> </table>				Company Official Mr./Mrs./Ms. <u>  Mr.  </u>	First Name <u>  John  </u>	Initials <u>  P.  </u>	Last Name <u>  Doe  </u>	Position <u>  President  </u>	Telephone No. <u>  416-123-4567  </u>	Email Address <u>  john.doe@abccompany.com  </u>		User Name <u>  JDoe1  </u>		Password <u>  Guinness  </u>	
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Additional HWIN Administrator Mr./Mrs./Ms. <u>  Ms.  </u>	First Name <u>  Jane  </u>	Initials <u>  L.  </u>	Last Name <u>  Smith  </u>												
Position <u>  Engineer  </u>	Telephone No. <u>  416-123-7654  </u>	Email Address <u>  jane.smith@abccompany.com  </u>													
User Name <u>  JSmith23  </u>		Password <u>  Rabbit  </u>													
Contact Person (choose one): The Ministry requires you to designate one person to serve as the contact person who will receive all e-mail messages. _____ Company Official or <u>  X  </u> HWIN Administrator															
<b>Site Details</b>															
Please identify the primary North American Industry Classification System (NAICS) six digit code which best describes the nature of your business. NAICS Codes may be found in the "Registration Guidance Manual for Generators of Liquid Industrial and Hazardous Waste" or at the HWIN web page <a href="https://www.hwin.ca/hwin/NAICS1.html">https://www.hwin.ca/hwin/NAICS1.html</a> . <div style="text-align: center; font-family: monospace; font-size: 1.2em;">                         4 4 1 1 2 0                     </div>															
Is your site an approved Ontario Liquid Industrial/Hazardous Waste Receiver site? <u>  No  </u> (Yes/No) If so, include the corresponding MOE Certificate of Approval number: _____															
Does your organization store, process or dispose of subject waste on-site? <u>  No  </u> (Yes/No)															
Is your site a Municipal Hazardous or Special Waste depot operated by or exclusively for a municipality or the Crown? <u>  No  </u> (Yes/No) If so, include the corresponding MOE Certificate of Approval number: _____															
Is your site a contaminated facility and all waste results from activities carried on at the site for the purpose of remediating contaminated soil or other contaminated materials located on, in, or under the site? <u>  No  </u> (Yes/No)															

## Example of a Completed Generator Registration Report

<b>Part 2A – Waste Identification</b> (Please complete Part 2A for each waste stream to be registered)						
Waste Class <u>2</u> <u>1</u> <u>3</u>	Primary Characterization <u>I</u>	Hazardous Waste Number corresponding to Primary Characterization, if applicable <u>D</u> <u>0</u> <u>0</u> <u>1</u>				
Description of waste <span style="float: right;">Spent Varsol</span>						
Waste stream and description of generating process  Parts Cleaner						
Physical State (Solid - S, Liquid - L, Gas - G) <u>L</u>		Specific Gravity <u>0</u> . <u>80</u>				
<b>On-site Processing and Storage, if applicable (Ontario generators only)</b> Waste is processed or stored on-site						
Waste Management Method*	C of A # (if applicable)	Actual quantity for previous year	Est. quantity for current year	kg	or	Litres
<div style="border: 1px solid black; padding: 5px;">                         * Waste Management Method (choose one of the following):                          1. Processing (Part V facility)                          2. Processing (Part V exempt under S.17.1)                          3. Storage (i.e. PCBs, or subject waste in accordance with a C of A)                          For subject waste that will be shipped off-site or further managed on-site after processing, identify the waste number (waste class and primary characterization) that will be registered for further management of the processed waste or residual (not required for stored waste) Waste Number : _____                     </div>						
<b>On-site Disposal, if applicable (Ontario generators only)</b> Waste is disposed on-site by any of the methods listed below						
Waste Management Method*	C of A # (if applicable)	Actual quantity for previous year	Est. quantity for current year	kg	or	Litres
<div style="border: 1px solid black; padding: 5px;">                         * Waste Management Method (choose one of the following):                          1. Incineration                          2. Thermal destruction (non-incineration)                          3. Landfill                          4. Landfarm                          5. Discharge to sanitary sewer                          6. OWRA approved on-site treatment                          7. Use as a waste-derived fuel                          8. Other on-site disposal – Please specify _____                     </div>						
If the on-site disposal method is 3. Landfill or 4. Landfarm, confirm that the on-site management method has been conducted in accordance with all applicable land disposal restrictions requirements in Regulation 347: <div style="text-align: right;">                         Yes _____ No _____                     </div>						
<b>Part 2A is continued on the next page.</b>						

## Example of a Completed Generator Registration Report

### Part 2A (Continued)

#### Off-site shipment, if applicable

#### Declaration of Waste Streams Subject to Land Disposal Restrictions

When renewing the registration, you will need to determine, for each waste stream being registered, whether the following questionnaire in Part 2A needs to be completed. Completion of the questionnaire (if required) will indicate to the generator whether additional information about the waste stream needs to be provided in Part 2B (LDR Notification Form) during registration. **REGISTRATION RENEWAL MUST BE COMPLETED ON OR BEFORE FEBRUARY 15 IN EVERY YEAR, INCLUDING COMPLETING THE QUESTIONNAIRE IN PART 2A AND THE LDR NOTIFICATION FORM IN PART 2B, IF NECESSARY.**

<b>Is the primary characterization of this waste stream liquid industrial (L), PCB (D) or pathological (P)?</b> If Yes, go to Question 8. If No, go to Question 1.	Yes <u>  X  </u> No <u>      </u>
1. Is this waste stream being shipped out of Ontario to a facility <b>NOT</b> listed on the HWIN list of recycling facilities? If Yes, go to Part 2B to complete the LDR Notification Form. If No, go to Question 2.	
2. Does your waste stream require LDR treatment and you would like to go directly to the LDR requirements? If Yes, go to Part 2B to complete the LDR Notification Form. If No, go to Question 3.	Yes <u>      </u> No <u>      </u>
3. Are you unsure of any applicable exemptions or where your waste stream will be managed? If Yes, go to Part 2B to complete the LDR Notification Form. If No, go to Question 4.	Yes <u>      </u> No <u>      </u>
4. Is the primary characterization of this waste stream acute hazardous waste chemical (A) or severely toxic waste (S)? If Yes, go to Question 5. If No, go to Question 4a.	Yes <u>      </u> No <u>      </u>
4a. Does your facility qualify as a small quantity generator (SQG) under S.80 of Regulation 347? (The sum of all hazardous wastes with primary characterization B, H, C, I, R, or T generated at your facility must be less than 100 kg in any one month). If Yes, go to Question 4b. If No, go to Question 5.	Yes <u>      </u> No <u>      </u>
4b. Estimated total quantity of B, H, C, I, R & T wastes generated in kg in any one month _____ <b>Registration for this waste stream is complete. Go to Question 8.</b>	
5. Is this waste stream a Municipal Hazardous or Special Waste (MHSW formerly called household hazardous waste (HHW)) that is exempt under Section 81 of Regulation 347 or waste received at your transfer station that is a small quantity generator (SQG) waste in a sealed container that is exempt under Section 80 of Regulation 347?	
Not a MHSW exempt under Section 81 of Regulation 347 nor a SQG waste in a sealed container received at your transfer station that is exempt under Section 80 of Regulation 347. <b>Go to Question 6.</b> <span style="float: right;"><input type="checkbox"/></span>	
SQG waste in a sealed container received at your transfer station that is exempt under Section 80 of Regulation 347. <span style="float: right;"><input type="checkbox"/></span>	
Waste stream is a MHSW exempt under Section 81 of Regulation 347. <b>Enter the MHSW depot C of A number.</b> _____ <span style="float: right;"><input type="checkbox"/></span>	
<b>Registration for this waste stream is complete. Go to Question 8.</b>	
6. Will this waste stream be managed at a facility listed on the HWIN list of recycling facilities without being processed at another off-site facility prior to receipt at the HWIN recycling facility? (Note that you may answer "Yes" if the waste will be bulked with like wastes, but you must answer "No" if any processing of the waste will occur).	
Yes <u>      </u> No <u>      </u>	
If Yes, enter the HWIN recycling facility's C of A number. _____ <b>Registration for this waste stream is complete. Go to Question 8.</b> If No, go to Question 7.	
7. Will this waste stream be managed at any of the following facilities in Ontario without being processed at another off-site facility prior to receipt at the facility listed below? (Note that you may answer "Yes" if the waste will be bulked with like wastes, but you must answer "No" if any processing of the waste will occur):	
OWRA-approved facility	Yes <u>      </u> No <u>      </u> C of A # _____
Incineration facility	Yes <u>      </u> No <u>      </u> C of A # _____
Waste-derived fuel site	Yes <u>      </u> No <u>      </u> C of A # _____
If Yes, enter the applicable C of A number of the facility(ies) where the waste stream will be managed in the space provided above. <b>Registration for this waste stream is complete. Go to Question 8.</b> If No, go to Part 2B to complete the LDR Notification Form.	
8. Do you have another waste stream to register?	
Yes <u>      </u> No <u>  X  </u>	
If Yes, complete a new Part 2A for the next waste stream. If No, go to Part 3.	

### Example of a Completed Generator Registration Report

Part 2B – Land Disposal Restrictions (LDR) Notification Form					
(Please complete Part 2B for each waste stream in Part 2A that is subject to the LDR reporting and notification requirements)					
Generator Registration Number (from Part 1) _____ Waste Number (waste class and primary characterization, from Part 2A) ____ _ Waste Description (from Part 2A) _____				Completion Date for Part 2B _____	
Is the waste an aqueous waste? _____ a non-aqueous waste? _____ (choose one)					
Will the alternate treatment standards be used to meet LDR requirements? (Yes/No) _____ If "Yes", is the waste a soil or soil mixture? _____, or is the waste a debris or debris mixture? _____ If the waste is debris or debris mixture, list the type(s) of debris present in the waste _____.					
Hazardous Waste Numbers					
Characterization (A, B, C, H, I, R, S, T, U)		Hazardous Waste Number (Schedules – col.1)	Waste (Sch.1,5-col.2), Generic Name (Sch.2A,2B)-col.3), or Contaminant (Sch.3-col.3)	CAS# (if applicable, Sch.2A,2B,3-col.2)	Treatment Subcategory (if applicable)
Primary (from Part 2A)					
Additional (if applicable)					
Regulated Constituents (if additional space is needed, please attach additional page(s))					
Hazardous Waste Number (from above)	Regulated Constituents (Sch.1,5-col.3, Sch.2A,2B,3-col.4, Sch.6-col.1) including characteristic, if applicable		CAS# (Sch.1,5-col.4, Sch.2A, 2B,3-col.5, Sch.6-col.2)	Has the constituent or characteristic been treated to meet the requirement?	
Variances (if applicable)					
Check method used to approve variance: Certificate of Approval _____ Director's Letter _____ Regulatory Exemption _____		Enter appropriate approval reference number: C of A Number _____ Letter Reference Number _____ Amending Regulation _____		Enter dates the variance is in effect: Start Date _____ (day/month/year) End Date _____ (day/month/year) Not time-dependent _____	
If an equivalent treatment method has been approved, identify the approved treatment method _____					
Confirmation of Treatment Status					
For characteristic wastes, choose one of the following:					
a)	Waste has been fully treated to remove the hazardous characteristic and meets the underlying hazardous constituent (UHC) standards in Schedule 6 _____				
b)	Waste has been partially treated for the regulated constituents identified above and will be shipped offsite for further treatment _____				
c)	Waste has been treated to remove the hazardous characteristic, but requires further treatment to meet the underlying hazardous constituent (UHC) standards in Schedule 6 for UHC(s) identified above _____				
d)	Waste is being sent offsite to meet the land disposal treatment requirements for the regulated constituents identified above _____				
e)	Waste is being shipped out of Ontario _____				
For listed wastes, mixtures that include a listed waste, or waste derived from a listed waste, choose one of the following:					
a)	Waste has been partially treated for the regulated constituents identified above and will be shipped offsite for further treatment _____				
b)	Waste has been treated and meets the land disposal treatment requirements for regulated constituents identified above _____				
c)	Waste has no regulated constituents present or all regulated constituents are already below the land disposal treatment requirements _____				
d)	Waste is being sent offsite to meet the land disposal treatment requirements for the regulated constituents identified above _____				
e)	Waste is being shipped out of Ontario _____				

## Example of a Completed Generator Registration Report

### Part 3 – Request For Information

The following information is voluntary. The Ministry would like to collect information on the types and quantities of waste being sent for recycling. The reporting of these waste quantities is not a regulatory requirement.

	Waste Description	Annual Quantity Recycled (kg)
Waste recycled in accordance with subsection 3(2) of Regulation 347		

### Part 4 – Payment

**Options:** (Choose one) \_\_\_\_\_  
 \_\_\_\_\_ Cheque or money order: payable to "The Minister of Finance"; attach to the Generator Registration Report \_\_\_\_\_ Credit card: complete credit card authorization below (including signature).

**CREDIT CARD AUTHORIZATION FOR GENERATOR REGISTRATION FEE** (choose one):

\_\_\_\_\_ **Visa** \_\_\_\_\_ **X** **MasterCard** \_\_\_\_\_ **American Express**

Credit Card Number 5000 6000 4000 1000	Expiry date (mm/yy) 05/12
Name on credit card Jane Smith	Signature (sign here)

### Part 5 – Certification (User Agreement)

I certify that I am the contact person named on this registration form, that I have undertaken reasonable inquiry to satisfy myself as to the contents of this registration form and that all of the information contained on this form is accurate and complete to the best of my knowledge. I acknowledge that it is an offence under subsection 184 (2) of the *Environmental Protection Act* to give false or misleading information to the Ministry of the Environment. I confirm that I have been designated by my organization as the HWIN Administrator, and as HWIN Administrator I certify that I will keep HWIN registration information current. I acknowledge that the Ministry of the Environment will hold the users, including HWIN Administrators, of the Hazardous Waste Information system responsible for certifications and electronic signatures they make or cause to be made while using this system. Recognizing the importance of certifications and signatures, I certify that as HWIN Administrator I will implement the necessary management of user names and passwords to ensure the integrity of these certifications and signatures for use in the system by my organization.

HWIN Administrator (Please print)	Signature	Date
Jane Smith	(sign here)	02/01/2010

## Example of a Completed Generator Registration Report

### GENERATOR REGISTRATION REPORT: GENERAL INSTRUCTIONS

If you are registering multiple waste streams, please complete a separate Part 2A for each waste stream. If the waste stream in Part 2A is subject to LDR reporting and notification requirements you need to complete Part 2B. You may make as many copies of Part 2B of the Generator Registration Report (GRR) as required. Paper copies of the GRR may be returned to the generator if any errors or omissions are identified during the pre-screening or if the required fee is not included.

By completing the questionnaire for each hazardous waste stream, generators will determine if they need to complete the LDR Notification Form (Part 2B of the GRR). Notification is a one-time requirement that provides the receiver with information about the waste and the relevant treatment requirement, and states whether the waste has been partially or fully treated. Each waste-generating facility that ships a waste stream that requires a Part 2B to be completed, must provide the receiving facility with the information contained in the most recent Notification Form of the GRR. The notification must be done either before or on the first transfer of the waste.

It is important to note that you, as a waste generator, are responsible for the characterization of your wastes and for the information submitted. The Ministry will input information from your signed GRR on your behalf but it is your responsibility to ensure that the information entered is correct. Your submitted information will be posted on HWIN at <http://www.hwin.ca>. If your waste is found to be incorrectly characterized or the information supplied on the GRR is incorrect, you are liable for prosecution. For further information about completing the GRR, please review the "Registration Guidance Manual for Generators of Liquid Industrial and Hazardous Waste". The manual, including its appendices are available on the Ministry's hazardous waste rules and regulations page under Resources. This link can be accessed through: <http://www.ene.gov.on.ca/en/land/hazardouswaste/hazardouswaste.php>.

The annual fee associated with submitting a GRR consists of the following three components:

**Base Fee:** All generators will be charged \$50 for each registered site at the time of registration

**Manifest Component:** A manifest component will be calculated based on \$5 for each manifest used to ship waste off-site

**Tonnage Component:** A tonnage component will be calculated based on \$10 per tonne of hazardous waste generated applicable only to the initial generator registered in Ontario

Details regarding your fees and payment options are available in the Manual or you may contact the HWIN help desk at 1-866-494-6663.

Please note that your annual Generator Registration Report for the calendar year is only valid until February 15 of the following year. To remain registered, you must renew your registration each year by February 15th. The \$50 base fee is due upon registration as is any outstanding fee balance from the previous year's activities.

Payment may be made by including a money order or cheque payable to: the **Minister of Finance** (all applicable taxes have been included in the fee amount). If paying by money order or cheque, simply attach it to the GRR. The cheque can include additional funds to pay for the current year's anticipated waste activities. These additional funds will be added to your pre-paid account. Please note that sufficient funds for all manifest and tonnage components of the generator registration fee must be available within your HIWIN account prior to making any waste shipments. You are therefore encouraged to include additional funds when you register to pay for all or part of the current year's anticipated waste activities.

Payment can also be made using a credit card by providing the information requested in Part 4. Only VISA, Mastercard and American Express cards are accepted. Funds can also be added to your pre-paid account by credit card over the telephone. To do so, contact the HWIN help desk at 1-866-494-6663 and follow payment instructions.

**Mailing Address:**

Paper copies of the Generator Registration Report (GRR) along with the required fee are to be submitted to the Ministry of the Environment by mailing them to:

Environmental Monitoring & Reporting Branch, Area "M"  
Ontario Ministry of the Environment  
135 St. Clair Avenue West  
Toronto, ON M4V 1P5

(Note: This is a mailing address only)

November, 2009



## **Examples of Completed LDR Notification Forms (Part 2B)**

### **[Appendix B](#)**

## **Examples of Completed LDR Notification Forms (Part 2B)**

## Examples of Completed LDR Notification Forms (Part 2B)

**List of examples of completed Part 2B forms, based on the 2009 Generator Registration Report:**

Example	Type of Waste	LDR Treatment Standard	Notes
1	Listed (H)	Numerical	
2	Listed (H)	Technology, with treatment sub-category	
3	Listed (A)	Numerical	Treated
4	Characteristic (T)	Numerical and “meet Schedule 6 standards”	
5	Characteristic (I)	Treatment sub-category; choice of technology alone or “DEACT and meet Schedule 6”	
6	Treated Characteristic (U)	“meet Schedule 6 standards”	Partially treated waste – not hazardous, but remains subject waste (after Dec. 31, 2009)
7	Listed (H) and characteristic (C)	Numerical, and “DEACT and meet Schedule 6 standards”	Partial treatment for characteristic only
8a	Contaminated soil	Alternate treatment standards for soils – numerical	Needs treatment as concentrations are above 10 times the UTS
8b	Contaminated soil	Alternate treatment standards for soils – numerical	No treatment required – soil is leachate toxic, but concentrations are less than 10 times UTS
9	Debris	Alternate treatment standards for debris – technology	
10	Characteristic – E-series waste	Best efforts to achieve numerical standard	

## Examples of Completed LDR Notification Forms (Part 2B)

<b>EXAMPLE 1</b>		<b>Part 2B – Land Disposal Restriction (LDR) Notification Form</b>			
Complete Part 2B for each waste stream in Part 2A that is subject to the LDR reporting and notification requirements)					
Generator Registration Number (from Part 1) <u>ON0000001</u>			Completion Date for Part 2B <u>05/01/2007</u>		
Waste Number (waste class and primary characterization, from Part 2A) <u>1 4 6 H</u>					
Waste Description (from Part 2A) <u>Baghouse filters from baghouse #1</u>					
Is the waste an aqueous waste? _____ a non-aqueous waste? <u>X</u> (choose one)					
Will the alternate treatment standards be used to meet LDR requirements? (Yes/No) <u>No</u> If "Yes", is the waste a soil or soil mixture? _____, or is the waste a debris or debris mixture? _____ If the waste is debris or debris mixture, list the type(s) of debris present in the waste _____					
<b>Hazardous Waste Numbers</b>					
Characterization (A, B, C, H, I, R, S, T, U)	Hazardous Waste Number (Schedules – col.1)	Waste (Sch.1,5-col.2), Generic Name (Sch.2A,2B)-col.3), or Contaminant (Sch.3-col.3)	CAS# (if applicable, Sch.2A,2B,3-col.2)	Treatment Subcategory (if applicable)	
Primary (from Part 2A)	H	K176	Baghouse filters from production of antimony oxide	-	-
Additional (if applicable)					
<b>Regulated Constituents</b> (if additional space is needed, please attach additional page(s))					
Hazardous Waste Number (from above)	Regulated Constituents (Sch.1,5-col.3, Sch.2A,2B,3-col.4, Sch.6-col.1) and characteristic, if applicable		CAS# (Sch.1,5-col.4, Sch.2A, 2B,3-col.5, Sch.6-col.2)	Has the constituent or characteristic been treated to meet the requirement?	
K176	Antimony		7440-36-0	No	
K176	Cadmium		7440-43-9	No	
K176	Lead		7439-92-1	No	
K176	Mercury		7439-97-6	No	
	Note that although arsenic a regulated constituent for K176 waste, it is not included here because the generator analysed the waste and determined that the concentration of arsenic does not exceed the treatment standard in this waste.				
<b>Variances (if applicable)</b>					
Check method used to approve variance: Certificate of Approval _____ Director's Letter _____ Regulatory Exemption _____		Enter appropriate approval reference number: C of A Number _____ Letter Reference Number _____ Amending Regulation _____		Enter dates the variance is in effect: Start Date _____ (day/month/year) End Date _____ (day/month/year) Not time-dependent _____	
If an equivalent treatment method has been approved, identify the approved treatment method _____					
<b>Confirmation of Treatment Status</b>					
For characteristic wastes, choose one of the following:					
a) Waste has been fully treated to remove the hazardous characteristic and meets the underlying hazardous constituent (UHC) standards in Schedule 6 _____					
b) Waste has been partially treated for the regulated constituents identified above and will be shipped offsite for further treatment _____					
c) Waste has been treated to remove the hazardous characteristic, but requires further treatment to meet the underlying hazardous constituent (UHC) standards in Schedule 6 for UHC(s) identified above _____					
d) Waste is being sent offsite to meet the land disposal treatment requirements for the regulated constituents identified above _____					
e) Waste is being shipped out of Ontario _____					
For listed wastes, mixtures that include a listed waste, or waste derived from a listed waste, choose one of the following:					
a) Waste has been partially treated for the regulated constituents identified above and will be shipped offsite for further treatment _____					
b) Waste has been treated and meets the land disposal treatment requirements for regulated constituents identified above _____					
c) Waste has no regulated constituents present or all regulated constituents are already below the land disposal treatment requirements _____					
d) Waste is being sent offsite to meet the land disposal treatment requirements for the regulated constituents identified above <u>X</u>					
e) Waste is being shipped out of Ontario _____					

## Examples of Completed LDR Notification Forms (Part 2B)

<b>EXAMPLE 2</b>		<b>Part 2B – Land Disposal Restriction (LDR) Notification Form</b> <small>Complete Part 2B for each waste stream in Part 2A that is subject to the LDR reporting and notification requirements)</small>			
Generator Registration Number (from Part 1) <u>ON0000001</u>			Completion Date for Part 2B <u>05/01/2007</u>		
Waste Number (waste class and primary characterization, from Part 2A) <u>2 1 2 H</u>					
Waste Description (from Part 2A) <u>Spent solvent from process #3 (2-ethoxyethanol)</u>					
Is the waste an aqueous waste? <input checked="" type="checkbox"/> <u>X</u> a non-aqueous waste? <input type="checkbox"/> (choose one)					
Will the alternate treatment standards be used to meet LDR requirements? (Yes/No) <u>No</u> If "Yes", is the waste a soil or soil mixture? _____, or is the waste a debris or debris mixture? _____ If the waste is debris or debris mixture, list the type(s) of debris present in the waste _____.					
<b>Hazardous Waste Numbers</b>					
Characterization (A, B, C, H, I, R, S, T, U)		Hazardous Waste Number (Schedules – col.1)	Waste (Sch.1,5-col.2), Generic Name (Sch.2A,2B)-col.3), or Contaminant (Sch.3-col.3)	CAS# (if applicable, Sch.2A,2B,3-col.2)	Treatment Subcategory (if applicable)
Primary (from Part 2A)	H	F005	Spent solvents – 2-ethoxyethanol	-	4
Additional (if applicable)					
<b>Regulated Constituents</b> (if additional space is needed, please attach additional page(s))					
Hazardous Waste Number (from above)		Regulated Constituents (Sch.1,5-col.3, Sch.2A,2B,3-col.4, Sch.6-col.1) and characteristic, if applicable		CAS# (Sch.1,5-col.4, Sch.2A, 2B,3-col.5, Sch.6-col.2)	Has the constituent or characteristic been treated to meet the requirement?
F005		2-ethoxyethanol		110-80-5	No
<b>Variances (if applicable)</b>					
Check method used to approve variance:		Enter appropriate approval reference number:		Enter dates the variance is in effect:	
Certificate of Approval _____		C of A Number _____		Start Date _____ (day/month/year)	
Director's Letter _____		Letter Reference Number _____		End Date _____ (day/month/year)	
Regulatory Exemption _____		Amending Regulation _____		Not time-dependent _____	
If an equivalent treatment method has been approved, identify the approved treatment method _____					
<b>Confirmation of Treatment Status</b>					
For characteristic wastes, choose one of the following:					
a) Waste has been fully treated to remove the hazardous characteristic and meets the underlying hazardous constituent (UHC) standards in Schedule 6 _____					
b) Waste has been partially treated for the regulated constituents identified above and will be shipped offsite for further treatment _____					
c) Waste has been treated to remove the hazardous characteristic, but requires further treatment to meet the underlying hazardous constituent (UHC) standards in Schedule 6 for UHC(s) identified above _____					
d) Waste is being sent offsite to meet the land disposal treatment requirements for the regulated constituents identified above _____					
e) Waste is being shipped out of Ontario _____					
For listed wastes, mixtures that include a listed waste, or waste derived from a listed waste, choose one of the following:					
a) Waste has been partially treated for the regulated constituents identified above and will be shipped offsite for further treatment _____					
b) Waste has been treated and meets the land disposal treatment requirements for regulated constituents identified above _____					
c) Waste has no regulated constituents present or all regulated constituents are already below the land disposal treatment requirements _____					
d) Waste is being sent offsite to meet the land disposal treatment requirements for the regulated constituents identified above <u>X</u>					
e) Waste is being shipped out of Ontario _____					

## Examples of Completed LDR Notification Forms (Part 2B)

### EXAMPLE 3

#### Part 2B – Land Disposal Restriction (LDR) Notification Form

Complete Part 2B for each waste stream in Part 2A that is subject to the LDR reporting and notification requirements)

Generator Registration Number (from Part 1) <u>ON0000001</u>	Completion Date for Part 2B <u>05/01/2007</u>
Waste Number (waste class and primary characterization, from Part 2A) <u>2 6 6 A</u>	
Waste Description (from Part 2A) <u>waste dinitrophenol – off-spec.</u>	

Is the waste an aqueous waste? X a non-aqueous waste? \_\_\_\_\_ (choose one)

Will the alternate treatment standards be used to meet LDR requirements? (Yes/No) No

If "Yes", is the waste a soil or soil mixture? \_\_\_\_\_, or is the waste a debris or debris mixture? \_\_\_\_\_

If the waste is debris or debris mixture, list the type(s) of debris present in the waste \_\_\_\_\_.

#### Hazardous Waste Numbers

Characterization (A, B, C, H, I, R, S, T, U)	Hazardous Waste Number (Schedules – col.1)	Waste (Sch.1,5-col.2), Generic Name (Sch.2A,2B)-col.3), or Contaminant (Sch.3-col.3)	CAS# (if applicable, Sch.2A,2B,3-col.2)	Treatment Subcategory (if applicable)
Primary (from Part 2A)	A	P048	2,4-dinitrophenol	51-28-5
Additional (if applicable)				-

#### Regulated Constituents (if additional space is needed, please attach additional page(s))

Hazardous Waste Number (from above)	Regulated Constituents (Sch.1,5-col.3, Sch.2A,2B,3-col.4, Sch.6-col.1) and characteristic, if applicable	CAS# (Sch.1,5-col.4, Sch.2A, 2B,3-col.5, Sch.6-col.2)	Has the constituent or characteristic been treated to meet the requirement?
P048	2,4-dinitrophenol	51-28-5	Yes

#### Variances (if applicable)

Check method used to approve variance: Certificate of Approval _____ Director's Letter _____ Regulatory Exemption _____	Enter appropriate approval reference number: C of A Number _____ Letter Reference Number _____ Amending Regulation _____	Enter dates the variance is in effect: Start Date _____ (day/month/year) End Date _____ (day/month/year) Not time-dependent _____
--	---	--

If an equivalent treatment method has been approved, identify the approved treatment method \_\_\_\_\_

#### Confirmation of Treatment Status

For characteristic wastes, choose one of the following:

- a) Waste has been fully treated to remove the hazardous characteristic and meets the underlying hazardous constituent (UHC) standards in Schedule 6 \_\_\_\_\_
- b) Waste has been partially treated for the regulated constituents identified above and will be shipped offsite for further treatment \_\_\_\_\_
- c) Waste has been treated to remove the hazardous characteristic, but requires further treatment to meet the underlying hazardous constituent (UHC) standards in Schedule 6 for UHC(s) identified above \_\_\_\_\_
- d) Waste is being sent offsite to meet the land disposal treatment requirements for the regulated constituents identified above \_\_\_\_\_
- e) Waste is being shipped out of Ontario \_\_\_\_\_

For listed wastes, mixtures that include a listed waste, or waste derived from a listed waste, choose one of the following:

- a) Waste has been partially treated for the regulated constituents identified above and will be shipped offsite for further treatment \_\_\_\_\_
- b) Waste has been treated and meets the land disposal treatment requirements for regulated constituents identified above X
- c) Waste has no regulated constituents present or all regulated constituents are already below the land disposal treatment requirements \_\_\_\_\_
- d) Waste is being sent offsite to meet the land disposal treatment requirements for the regulated constituents identified above \_\_\_\_\_
- e) Waste is being shipped out of Ontario \_\_\_\_\_

## Examples of Completed LDR Notification Forms (Part 2B)

<b>EXAMPLE 4</b> <b>Part 2B – Land Disposal Restriction (LDR) Notification Form</b> <small>Complete Part 2B for each waste stream in Part 2A that is subject to the LDR reporting and notification requirements)</small>					
Generator Registration Number (from Part 1) <u>ON0000001</u>			Completion Date for Part 2B <u>05/01/2007</u>		
Waste Number (waste class and primary characterization, from Part 2A) <u>2 4 1 T</u>					
Waste Description (from Part 2A) <u>waste from clean up of solvent spills</u>					
Is the waste an aqueous waste? _____ a non-aqueous waste? <u>X</u> (choose one)					
Will the alternate treatment standards be used to meet LDR requirements? (Yes/No) <u>No</u> If "Yes", is the waste a soil or soil mixture? _____, or is the waste a debris or debris mixture? _____ If the waste is debris or debris mixture, list the type(s) of debris present in the waste _____.					
<b>Hazardous Waste Numbers</b>					
Characterization (A, B, C, H, I, R, S, T, U)		Hazardous Waste Number (Schedules – col.1)	Waste (Sch.1,5-col.2), Generic Name (Sch.2A,2B)-col.3), or Contaminant (Sch.3-col.3)	CAS# (if applicable, Sch.2A,2B,3-col.2)	Treatment Subcategory (if applicable)
Primary (from Part 2A)	T	D039	Leachate toxic for perchloroethylene	-	-
Additional (if applicable)					
<b>Regulated Constituents</b> (if additional space is needed, please attach additional page(s))					
Hazardous Waste Number (from above)		Regulated Constituents (Sch.1,5-col.3, Sch.2A,2B,3-col.4, Sch.6-col.1) and characteristic, if applicable		CAS# (Sch.1,5-col.4, Sch.2A, 2B,3-col.5, Sch.6-col.2)	Has the constituent or characteristic been treated to meet the requirement?
D039		Perchloroethylene		127-18-4	No
		UHC 1		CAS#1	No
		UHC 2		CAS#2	No
		UHC 3		CAS#3	No
		UHC 4		CAS#4	No
<div style="border: 1px solid black; padding: 5px; margin: 5px auto; width: 80%;">           Note that the generator must enter the names of all underlying hazardous constituents (UHCs) from Schedule 6 that are present above the treatment standards – in this example there are 4 UHCs.         </div>					
<b>Variances (if applicable)</b>					
Check method used to approve variance:		Enter appropriate approval reference number:		Enter dates the variance is in effect:	
Certificate of Approval _____		C of A Number _____		Start Date _____ (day/month/year)	
Director's Letter _____		Letter Reference Number _____		End Date _____ (day/month/year)	
Regulatory Exemption _____		Amending Regulation _____		Not time-dependent _____	
If an equivalent treatment method has been approved, identify the approved treatment method _____					
<b>Confirmation of Treatment Status</b>					
For characteristic wastes, choose one of the following:					
a) Waste has been fully treated to remove the hazardous characteristic and meets the underlying hazardous constituent (UHC) standards in Schedule 6 _____					
b) Waste has been partially treated for the regulated constituents identified above and will be shipped offsite for further treatment _____					
c) Waste has been treated to remove the hazardous characteristic, but requires further treatment to meet the underlying hazardous constituent (UHC) standards in Schedule 6 for UHC(s) identified above _____					
d) Waste is being sent offsite to meet the land disposal treatment requirements for the regulated constituents identified above <u>X</u>					
e) Waste is being shipped out of Ontario _____					
For listed wastes, mixtures that include a listed waste, or waste derived from a listed waste, choose one of the following:					
a) Waste has been partially treated for the regulated constituents identified above and will be shipped offsite for further treatment _____					
b) Waste has been treated and meets the land disposal treatment requirements for regulated constituents identified above _____					
c) Waste has no regulated constituents present or all regulated constituents are already below the land disposal treatment requirements _____					
d) Waste is being sent offsite to meet the land disposal treatment requirements for the regulated constituents identified above _____					
e) Waste is being shipped out of Ontario _____					

## Examples of Completed LDR Notification Forms (Part 2B)

### EXAMPLE 5

#### Part 2B – Land Disposal Restriction (LDR) Notification Form

Complete Part 2B for each waste stream in Part 2A that is subject to the LDR reporting and notification requirements)

Generator Registration Number (from Part 1) <u>ON0000001</u>		Completion Date for Part 2B <u>05/01/2007</u>	
Waste Number (waste class and primary characterization, from Part 2A) <u>2 1 3 1</u>			
Waste Description (from Part 2A) <u>waste varsol</u>			
Is the waste an aqueous waste? <input checked="" type="checkbox"/> a non-aqueous waste? <input type="checkbox"/> (choose one)			
Will the alternate treatment standards be used to meet LDR requirements? (Yes/No) <u>No</u> If "Yes", is the waste a soil or soil mixture? _____, or is the waste a debris or debris mixture? _____ If the waste is debris or debris mixture, list the type(s) of debris present in the waste _____.			
<b>Hazardous Waste Numbers</b>			
Characterization (A, B, C, H, I, R, S, T, U)	Hazardous Waste Number (Schedules – col.1)	Waste (Sch.1,5-col.2), Generic Name (Sch.2A,2B)-col.3), or Contaminant (Sch.3-col.3)	Treatment Subcategory (if applicable)
Primary (from Part 2A)	I	D001	Ignitable waste, low TOC
Additional (if applicable)			
<b>Regulated Constituents</b> (if additional space is needed, please attach additional page(s))			
Hazardous Waste Number (from above)	Regulated Constituents (Sch.1,5-col.3, Sch.2A,2B,3-col.4, Sch.6-col.1) and characteristic, if applicable	CAS# (Sch.1,5-col.4, Sch.2A, 2B,3-col.5, Sch.6-col.2)	Has the constituent or characteristic been treated to meet the requirement?
D001	Ignitability	-	No
	UHC 1	CAS#1	No
	UHC 2	CAS#2	No
	UHC 3	CAS#3	No
<b>Variances (if applicable)</b>			
Check method used to approve variance: Certificate of Approval _____ Director's Letter _____ Regulatory Exemption _____	Enter appropriate approval reference number: C of A Number _____ Letter Reference Number _____ Amending Regulation _____	Enter dates the variance is in effect: Start Date _____ (day/month/year) End Date _____ (day/month/year) Not time-dependent _____	
If an equivalent treatment method has been approved, identify the approved treatment method _____			
<b>Confirmation of Treatment Status</b>			
For characteristic wastes, choose one of the following:			
a) Waste has been fully treated to remove the hazardous characteristic and meets the underlying hazardous constituent (UHC) standards in Schedule 6 _____			
b) Waste has been partially treated for the regulated constituents identified above and will be shipped offsite for further treatment _____			
c) Waste has been treated to remove the hazardous characteristic, but requires further treatment to meet the underlying hazardous constituent (UHC) standards in Schedule 6 for UHC(s) identified above _____			
d) Waste is being sent offsite to meet the land disposal treatment requirements for the regulated constituents identified above <u>X</u>			
e) Waste is being shipped out of Ontario _____			
For listed wastes, mixtures that include a listed waste, or waste derived from a listed waste, choose one of the following:			
a) Waste has been partially treated for the regulated constituents identified above and will be shipped offsite for further treatment _____			
b) Waste has been treated and meets the land disposal treatment requirements for regulated constituents identified above _____			
c) Waste has no regulated constituents present or all regulated constituents are already below the land disposal treatment requirements _____			
d) Waste is being sent offsite to meet the land disposal treatment requirements for the regulated constituents identified above _____			
e) Waste is being shipped out of Ontario _____			

## Examples of Completed LDR Notification Forms (Part 2B)

<b>EXAMPLE 6</b>		<b>Part 2B – Land Disposal Restriction (LDR) Notification Form</b>			
Complete Part 2B for each waste stream in Part 2A that is subject to the LDR reporting and notification requirements)					
Generator Registration Number (from Part 1) <u>ON0000001</u>			Completion Date for Part 2B <u>05/01/2007</u>		
Waste Number (waste class and primary characterization, from Part 2A) <u>1 1 3 U</u>			Waste Description (from Part 2A) <u>treated corrosive waste from Process X</u>		
Is the waste an aqueous waste? _____ a non-aqueous waste? <u>X</u> (choose one)					
Will the alternate treatment standards be used to meet LDR requirements? (Yes/No) <u>No</u> If "Yes", is the waste a soil or soil mixture? _____, or is the waste a debris or debris mixture? _____ If the waste is debris or debris mixture, list the type(s) of debris present in the waste _____					
<b>Hazardous Waste Numbers</b>					
Characterization (A, B, C, H, I, R, S, T, U)	Hazardous Waste Number (Schedules – col.1)	Waste (Sch.1,5-col.2), Generic Name (Sch.2A,2B)-col.3), or Contaminant (Sch.3-col.3)	CAS# (if applicable, Sch.2A,2B,3-col.2)	Treatment Subcategory (if applicable)	
Primary (from Part 2A)	<u>U</u>	<u>D002</u>	<u>Treated corrosive waste</u>	<u>-</u>	<u>-</u>
Additional (if applicable)					
<b>Regulated Constituents</b> (if additional space is needed, please attach additional page(s))					
Hazardous Waste Number (from above)	Regulated Constituents (Sch.1,5-col.3, Sch.2A,2B,3-col.4, Sch.6-col.1) and characteristic, if applicable	CAS# (Sch.1,5-col.4, Sch.2A, 2B,3-col.5, Sch.6-col.2)	Has the constituent or characteristic been treated to meet the requirement?		
<u>D002</u>	<u>Corrosivity</u>	<u>-</u>	<u>Yes</u>		
	<u>UHC 1</u>	<u>CAS#1</u>	<u>No</u>		
	<u>UHC 2</u>	<u>CAS#2</u>	<u>No</u>		
<div style="border: 1px solid black; padding: 10px; width: fit-content; margin: auto;">                         Note that registration of this waste is required because it is still a subject waste (UHCs have not been treated) as of December 31, 2009.                     </div>					
<b>Variances (if applicable)</b>					
Check method used to approve variance:		Enter appropriate approval reference number:		Enter dates the variance is in effect:	
Certificate of Approval _____		C of A Number _____		Start Date _____ (day/month/year)	
Director's Letter _____		Letter Reference Number _____		End Date _____ (day/month/year)	
Regulatory Exemption _____		Amending Regulation _____		Not time-dependent _____	
If an equivalent treatment method has been approved, identify the approved treatment method _____					
<b>Confirmation of Treatment Status</b>					
For characteristic wastes, choose one of the following:					
a) Waste has been fully treated to remove the hazardous characteristic and meets the underlying hazardous constituent (UHC) standards in Schedule 6 _____					
b) Waste has been partially treated for the regulated constituents identified above and will be shipped offsite for further treatment _____					
c) Waste has been treated to remove the hazardous characteristic, but requires further treatment to meet the underlying hazardous constituent (UHC) standards in Schedule 6 for UHC(s) identified above <u>X</u>					
d) Waste is being sent offsite to meet the land disposal treatment requirements for the regulated constituents identified above _____					
e) Waste is being shipped out of Ontario _____					
For listed wastes, mixtures that include a listed waste, or waste derived from a listed waste, choose one of the following:					
a) Waste has been partially treated for the regulated constituents identified above and will be shipped offsite for further treatment _____					
b) Waste has been treated and meets the land disposal treatment requirements for regulated constituents identified above _____					
c) Waste has no regulated constituents present or all regulated constituents are already below the land disposal treatment requirements _____					
d) Waste is being sent offsite to meet the land disposal treatment requirements for the regulated constituents identified above _____					
e) Waste is being shipped out of Ontario _____					



## Examples of Completed LDR Notification Forms (Part 2B)

### EXAMPLE 7

#### Part 2B – Land Disposal Restriction (LDR) Notification Form

Complete Part 2B for each waste stream in Part 2A that is subject to the LDR reporting and notification requirements)

Generator Registration Number (from Part 1) <u>ON0000001</u>	Completion Date for Part 2B <u>05/01/2007</u>
Waste Number (waste class and primary characterization, from Part 2A) <u>1 1 2 H</u>	
Waste Description (from Part 2A) <u>waste solution from acid leaching of emission control dust</u>	

Is the waste an aqueous waste? ☒ X a non-aqueous waste? ☐ (choose one)

Will the alternate treatment standards be used to meet LDR requirements? (Yes/No) No

If "Yes", is the waste a soil or soil mixture? \_\_\_\_\_, or is the waste a debris or debris mixture? \_\_\_\_\_

If the waste is debris or debris mixture, list the type(s) of debris present in the waste \_\_\_\_\_.

#### Hazardous Waste Numbers

Characterization (A, B, C, H, I, R, S, T, U)	Hazardous Waste Number (Schedules – col.1)	Waste (Sch.1,5-col.2), Generic Name (Sch.2A,2B)-col.3), or Contaminant (Sch.3-col.3)	CAS# (if applicable, Sch.2A,2B,3-col.2)	Treatment Subcategory (if applicable)
Primary (from Part 2A)	H	K100	Waste leaching solution from acid leaching of emission control dust/sludge from secondary lead smelting	-
Additional (if applicable)	C	D002	corrosive	-

#### Regulated Constituents (if additional space is needed, please attach additional page(s))

Hazardous Waste Number (from above)	Regulated Constituents (Sch.1,5-col.3, Sch.2A,2B,3-col.4, Sch.6-col.1) and characteristic, if applicable	CAS# (Sch.1,5-col.4, Sch.2A, 2B,3-col.5, Sch.6-col.2)	Has the constituent or characteristic been treated to meet the requirement?
K100	Cadmium	7440-43-9	No
	Chromium	7440-47-3	No
	Lead	7439-92-1	No
D002	Corrosivity	-	Yes
	UHC 1	CAS#1	No
	UHC 2	CAS#2	No
	Note the characteristic of corrosivity must be identified because it is not one of the regulated constituents in the K100 listing.		

#### Variances (if applicable)

Check method used to approve variance: Certificate of Approval _____ Director's Letter _____ Regulatory Exemption _____	Enter appropriate approval reference number: C of A Number _____ Letter Reference Number _____ Amending Regulation _____	Enter dates the variance is in effect: Start Date _____ (day/month/year) End Date _____ (day/month/year) Not time-dependent _____
If an equivalent treatment method has been approved, identify the approved treatment method _____		

#### Confirmation of Treatment Status

For characteristic wastes, choose one of the following:

- a) Waste has been fully treated to remove the hazardous characteristic and meets the underlying hazardous constituent (UHC) standards in Schedule 6 \_\_\_\_\_
- b) Waste has been partially treated for the regulated constituents identified above and will be shipped offsite for further treatment \_\_\_\_\_
- c) Waste has been treated to remove the hazardous characteristic, but requires further treatment to meet the underlying hazardous constituent (UHC) standards in Schedule 6 for UHC(s) identified above \_\_\_\_\_
- d) Waste is being sent offsite to meet the land disposal treatment requirements for the regulated constituents identified above \_\_\_\_\_
- e) Waste is being shipped out of Ontario \_\_\_\_\_

For listed wastes, mixtures that include a listed waste, or waste derived from a listed waste, choose one of the following:

- a) Waste has been partially treated for the regulated constituents identified above and will be shipped offsite for further treatment X
- b) Waste has been treated and meets the land disposal treatment requirements for regulated constituents identified above \_\_\_\_\_
- c) Waste has no regulated constituents present or all regulated constituents are already below the land disposal treatment requirements \_\_\_\_\_
- d) Waste is being sent offsite to meet the land disposal treatment requirements for the regulated constituents identified above \_\_\_\_\_
- e) Waste is being shipped out of Ontario \_\_\_\_\_

## Examples of Completed LDR Notification Forms (Part 2B)

<div style="display: flex; justify-content: space-between;"> <span style="font-size: 1.2em; font-weight: bold;">EXAMPLE 8A</span> <div> <b>Part 2B – Land Disposal Restriction (LDR) Notification Form</b>  <small>Complete Part 2B for each waste stream in Part 2A that is subject to the LDR reporting and notification requirements)</small> </div> </div>					
Generator Registration Number (from Part 1) <u>ON0000001</u>				Completion Date for Part 2B <u>05/01/2007</u>	
Waste Number (waste class and primary characterization, from Part 2A) <u>1 4 6 T</u>				Waste Description (from Part 2A) <u>metals contaminated soil from clean-up</u>	
Is the waste an aqueous waste? _____ a non-aqueous waste? <u>X</u> (choose one)					
Will the alternate treatment standards be used to meet LDR requirements? (Yes/No) <u>Yes</u> If "Yes", is the waste a soil or soil mixture? <u>Yes</u> , or is the waste a debris or debris mixture? <u>No</u> If the waste is debris or debris mixture, list the type(s) of debris present in the waste _____					
<b>Hazardous Waste Numbers</b>					
Characterization (A, B, C, H, I, R, S, T, U)	Hazardous Waste Number (Schedules – col.1)	Waste (Sch.1,5-col.2), Generic Name (Sch.2A,2B)-col.3), or Contaminant (Sch.3-col.3)	CAS# (if applicable, Sch.2A,2B,3-col.2)	Treatment Subcategory (if applicable)	
Primary (from Part 2A)	T	D006	Leachate toxic for cadmium	-	1
Additional (if applicable)	T	D007	Leachate toxic for chromium	-	-
<div style="border: 1px solid black; padding: 5px; margin: 5px 0;"> Waste is leachate toxic for cadmium (D006) and chromium (D007), therefore both hazardous waste numbers need to be identified. </div>					
<b>Regulated Constituents</b> (if additional space is needed, please attach additional page(s))					
Hazardous Waste Number (from above)	Regulated Constituents (Sch.1,5-col.3, Sch.2A,2B,3-col.4, Sch.6-col.1) and characteristic, if applicable		CAS# (Sch.1,5-col.4, Sch.2A, 2B,3-col.5, Sch.6-col.2)	Has the constituent or characteristic been treated to meet the requirement?	
D006	Cadmium		7440-43-9	No	
D007	Chromium		7440-47-3	No	
<div style="border: 1px solid black; padding: 5px; margin: 5px 0;"> In this example, only cadmium and chromium are present in the soil at levels greater than 10 times the Schedule 6 standard and require treatment. </div>					
<b>Variances (if applicable)</b>					
Check method used to approve variance: Certificate of Approval _____ Director's Letter _____ Regulatory Exemption _____		Enter appropriate approval reference number: C of A Number _____ Letter Reference Number _____ Amending Regulation _____		Enter dates the variance is in effect: Start Date _____ (day/month/year) End Date _____ (day/month/year) Not time-dependent _____	
If an equivalent treatment method has been approved, identify the approved treatment method _____					
<b>Confirmation of Treatment Status</b>					
For characteristic wastes, choose one of the following: a) Waste has been fully treated to remove the hazardous characteristic and meets the underlying hazardous constituent (UHC) standards in Schedule 6 _____ b) Waste has been partially treated for the regulated constituents identified above and will be shipped offsite for further treatment _____ c) Waste has been treated to remove the hazardous characteristic, but requires further treatment to meet the underlying hazardous constituent (UHC) standards in Schedule 6 for UHC(s) identified above _____ d) Waste is being sent offsite to meet the land disposal treatment requirements for the regulated constituents identified above <u>X</u> e) Waste is being shipped out of Ontario _____ For listed wastes, mixtures that include a listed waste, or waste derived from a listed waste, choose one of the following: a) Waste has been partially treated for the regulated constituents identified above and will be shipped offsite for further treatment _____ b) Waste has been treated and meets the land disposal treatment requirements for regulated constituents identified above _____ c) Waste has no regulated constituents present or all regulated constituents are already below the land disposal treatment requirements _____ d) Waste is being sent offsite to meet the land disposal treatment requirements for the regulated constituents identified above _____ e) Waste is being shipped out of Ontario _____					

## Examples of Completed LDR Notification Forms (Part 2B)

### EXAMPLE 8B

#### Part 2B – Land Disposal Restriction (LDR) Notification Form

Complete Part 2B for each waste stream in Part 2A that is subject to the LDR reporting and notification requirements)

Generator Registration Number (from Part 1) <u>ON0000001</u>		Completion Date for Part 2B <u>05/01/2007</u>	
Waste Number (waste class and primary characterization, from Part 2A) <u>1 4 6 T</u>			
Waste Description (from Part 2A) <u>metals contaminated soil from clean-up</u>			
Is the waste an aqueous waste? _____ a non-aqueous waste? <u>X</u> (choose one)			
Will the alternate treatment standards be used to meet LDR requirements? (Yes/No) <u>Yes</u> If "Yes", is the waste a soil or soil mixture? <u>Yes</u> , or is the waste a debris or debris mixture? <u>No</u> If the waste is debris or debris mixture, list the type(s) of debris present in the waste _____.			
<b>Hazardous Waste Numbers</b>			
Characterization (A, B, C, H, I, R, S, T, U)	Hazardous Waste Number (Schedules – col.1)	Waste (Sch.1,5-col.2), Generic Name (Sch.2A,2B)-col.3), or Contaminant (Sch.3-col.3)	CAS# (if applicable, Sch.2A,2B,3-col.2)
Primary (from Part 2A)	T	D006	Leachate toxic for cadmium
Additional (if applicable)	T	D007	Leachate toxic for chromium
<b>Regulated Constituents</b> (if additional space is needed, please attach additional page(s))			
Hazardous Waste Number (from above)	Regulated Constituents (Sch.1,5-col.3, Sch.2A,2B,3-col.4, Sch.6-col.1) and characteristic, if applicable	CAS# (Sch.1,5-col.4, Sch.2A, 2B,3-col.5, Sch.6-col.2)	Has the constituent or characteristic been treated to meet the requirement?
D006	Cadmium	7440-43-9	No
D007	Chromium	7440-47-3	No
	<p>In this example, the waste is leachate toxic for Cd and Cr. The concentration of these constituents is below 10 times the Schedule 6 standards. Therefore, the waste meets the alternate treatment standards for soils with no treatment required. The generator lists these regulated constituents and indicates that no treatment has been conducted. Since the waste is leachate toxic, it must be disposed in a hazardous waste facility.</p> <p>The generator indicates under "Confirmation of Treatment Status" below that the waste soil meets the standards and no processing is required.</p>		
<b>Variances (if applicable)</b>			
Check method used to approve variance: Certificate of Approval _____ Director's Letter _____ Regulatory Exemption _____	Enter appropriate approval reference number: C of A Number _____ Letter Reference Number _____ Amending Regulation _____	Enter dates the variance is in effect: Start Date _____ (day/month/year) End Date _____ (day/month/year) Not time-dependent _____	
If an equivalent treatment method has been approved, identify the approved treatment method _____			
<b>Confirmation of Treatment Status</b>			
For characteristic wastes, choose one of the following:			
a) Waste has been fully treated to remove the hazardous characteristic and meets the underlying hazardous constituent (UHC) standards in Schedule 6 <u>X</u>			
b) Waste has been partially treated for the regulated constituents identified above and will be shipped offsite for further treatment _____			
c) Waste has been treated to remove the hazardous characteristic, but requires further treatment to meet the underlying hazardous constituent (UHC) standards in Schedule 6 for UHC(s) identified above _____			
d) Waste is being sent offsite to meet the land disposal treatment requirements for the regulated constituents identified above _____			
e) Waste is being shipped out of Ontario _____			
For listed wastes, mixtures that include a listed waste, or waste derived from a listed waste, choose one of the following:			
a) Waste has been partially treated for the regulated constituents identified above and will be shipped offsite for further treatment _____			
b) Waste has been treated and meets the land disposal treatment requirements for regulated constituents identified above _____			
c) Waste has no regulated constituents present or all regulated constituents are already below the land disposal treatment requirements _____			
d) Waste is being sent offsite to meet the land disposal treatment requirements for the regulated constituents identified above _____			
e) Waste is being shipped out of Ontario _____			

## Examples of Completed LDR Notification Forms (Part 2B)

### EXAMPLE 9

### Part 2B – Land Disposal Restriction (LDR) Notification Form

(Please complete Part 2B for each waste stream in Part 2A that is subject to the LDR reporting and notification requirements)

Generator Registration Number (from Part 1) <u>ON0000001</u>	Completion Date for Part 2B <u>05/01/2007</u>
Waste Number (waste class and primary characterization, from Part 2A) <u>2 7 0 T</u>	
Waste Description (from Part 2A) <u>concrete contaminated with carbon tetrachloride</u>	

Is the waste an aqueous waste? \_\_\_\_\_ a non-aqueous waste? X (choose one)

Will the alternate treatment standards be used to meet LDR requirements? (Yes/No) Yes

If "Yes", is the waste a soil or soil mixture? No, or is the waste a debris or debris mixture? Yes

If the waste is debris or debris mixture, list the type(s) of debris present in the waste concrete.

#### Hazardous Waste Numbers

Characterization (A, B, C, H, I, R, S, T, U)	Hazardous Waste Number (Schedules – col.1)	Waste (Sch.1,5-col.2), Generic Name (Sch.2A,2B)-col.3), or Contaminant (Sch.3-col.3)	CAS# (if applicable, Sch.2A,2B,3-col.2)	Treatment Subcategory (if applicable)
Primary (from Part 2A)	T	D019	Leachate toxic – carbon tetrachloride	-
Additional (if applicable)				

#### Regulated Constituents (if additional space is needed, please attach additional page(s))

Hazardous Waste Number (from above)	Regulated Constituents (Sch.1,5-col.3, Sch.2A,2B,3-col.4, Sch.6-col.1) and characteristic, if applicable	CAS# (Sch.1,5-col.4, Sch.2A, 2B,3-col.5, Sch.6-col.2)	Has the constituent or characteristic been treated to meet the requirement?
D019	Carbon tetrachloride	56-23-5	No

#### Variances (if applicable)

Check method used to approve variance: Certificate of Approval _____ Director's Letter _____ Regulatory Exemption _____	Enter appropriate approval reference number: C of A Number _____ Letter Reference Number _____ Amending Regulation _____	Enter dates the variance is in effect: Start Date _____ (day/month/year) End Date _____ (day/month/year) Not time-dependent _____
If an equivalent treatment method has been approved, identify the approved treatment method _____		

#### Confirmation of Treatment Status

For characteristic wastes, choose one of the following:

- a) Waste has been fully treated to remove the hazardous characteristic and meets the underlying hazardous constituent (UHC) standards in Schedule 6 \_\_\_\_\_
- b) Waste has been partially treated for the regulated constituents identified above and will be shipped offsite for further treatment \_\_\_\_\_
- c) Waste has been treated to remove the hazardous characteristic, but requires further treatment to meet the underlying hazardous constituent (UHC) standards in Schedule 6 for UHC(s) identified above \_\_\_\_\_
- d) Waste is being sent offsite to meet the land disposal treatment requirements for the regulated constituents identified above X
- e) Waste is being shipped out of Ontario \_\_\_\_\_

For listed wastes, mixtures that include a listed waste, or waste derived from a listed waste, choose one of the following:

- a) Waste has been partially treated for the regulated constituents identified above and will be shipped offsite for further treatment \_\_\_\_\_
- b) Waste has been treated and meets the land disposal treatment requirements for regulated constituents identified above \_\_\_\_\_
- c) Waste has no regulated constituents present or all regulated constituents are already below the land disposal treatment requirements \_\_\_\_\_
- d) Waste is being sent offsite to meet the land disposal treatment requirements for the regulated constituents identified above \_\_\_\_\_
- e) Waste is being shipped out of Ontario \_\_\_\_\_

[illegible]

## **Ontario Waste Classes**

### **Appendix B**

## **Ontario Waste Classes**

## Ontario Waste Classes

### INORGANIC WASTES

Acid Solutions		EXAMPLES
111	Spent pickle liquor	Acid solutions of sulphuric and hydrochloric acids containing ferrous salts from steel pickling.
112	Acid solutions, sludges and residues containing heavy metals	Solutions of sulphuric, hydrochloric and nitric acids containing copper, nickel, chromium, zinc, cadmium, tin, lead or other heavy metals; chromic acid waste; acidic emission control sludges from secondary lead smelting.
113	Acid solutions, sludges and residues containing other metals and non-metals	Solutions of sulphuric, hydrochloric, hydrofluoric and nitric acids containing sodium, potassium, calcium, magnesium or aluminum; equipment cleaning acids; cation regenerant; reactor acid washes; catalyst acid and acid washes.
114	Other inorganic acid wastes	Off-specification acids; by-product hydrochloric acid; dilute acid solutions; acid test residues.
Alkaline Solutions		
121	Alkaline solutions, sludges and residues containing heavy metals	Metal finishing wastes; plating baths; spent solutions containing metals such as copper, zinc, tin, cadmium; case hardening sludges; spent cyanide destruction residues; dewatered solids from metal and cyanide finishing wastes and cyanide destruction.
122	Alkaline solutions, sludges and residues containing other metals and non-metals, not containing cyanides	Alkaline solutions from aluminum surface coating and etching; alkali cleaner waste; waste lime sludges and slurries; anion regenerants.
123	Alkaline phosphates	Bonderizing waste; zinc phosphates; ferrous phosphates; phosphate cleaners.
Aqueous Salts		
131	Neutralized solutions, sludges and residues containing heavy metals	Metal finishing waste treatment sludges containing copper, nickel, chromium, zinc or cadmium; neutral salt bath sludges and washes; lime sludge from metal finishing waste treatment; dewatered solids from these processes
132	Neutralized solutions, sludges and residues containing other metals	Aluminum surface coating treatment sludges; alum and gypsum sludges.
133	Brines, chlor-alkali sludges and residues	Waste brines from chlor-alkali plants; neutralized hydrochloric acid; brine treatment sludges; dewatered solids from brine treatment.
134	Wastes containing sulphides	Petroleum aqueous refinery condensates.
135	Wastes containing other anions	Waste containing chlorates; hypochlorite; bromate or thiosulphate.
Miscellaneous Inorganic Wastes and Mixed Wastes		
141	Inorganic waste from pigment manufacturing	Wastewater and sludges from the production of chrome yellow, molybdate orange, zinc yellow, chrome green and iron pigments; dewatered solids from these sources.
142	Primary lead, zinc and copper smelting wastes	Slurries, sludges and surface impoundment solids; treatment plant sludges; anode slimes and leachate residues; dewatered solids from these sources.
143	Residues from steel making	Emission control sludges and dusts; precipitator residues from steel plants; dewatered solids from these sources.
144	Liquid tannery waste sludges	Lime waste mixtures; chrome tan liquors; dehairing solutions and sludges.
145	Wastes from the use of paints, pigments and coatings	Paint spray booth sludges and wastes; paper coating wastes; ink sludges; paint sludges.

## Ontario Waste Classes

146	Other specified inorganic sludges, slurries or solids	Flue gas scrubber wastes; wet fly ash; dust collector wastes; metal dust and abrasives wastes; foundry sands; mud sediment and water; tank bottoms from waste storage tanks that contained mixed inorganic wastes; heavy sludges from waste screening/filtration at transfer/processing sites not otherwise specified in this table.
147	Chemical fertilizer wastes	Solutions, sludges and residues containing ammonia, urea, nitrates and phosphates from nitrogen fertilizer plants.
148	Miscellaneous waste inorganic chemicals	Waste inorganic chemicals including laboratory, surplus or off-specification chemicals, that are not otherwise specified in this table.
149	Landfill leachate	Surface run-off and leachate collected from landfill sites.
150	Inert inorganic wastes	Sand and water from catch basins at car washes; slurries from the polishing and cutting of marble.

### ORGANIC WASTES

#### Non-halogenated Spent Solvents

211	Aromatic solvents and residues	Benzene, toluene, xylene solvents and residues
212	Aliphatic solvents and residues	Acetone, methylethylketone and residues, alcohols, cyclohexane and residues.
213	Petroleum distillates	Varsol, white spirits and petroleum distillates, thinners.

#### Fuels

221	Light fuels	Gasoline, kerosene, diesel, tank drainings/washings/bottoms, spill clean-up residues.
222	Heavy fuels	Bunker, asphalts, tank drainings/washings/bottoms, spill clean-up residues.

#### Resins and Plastics

#### EXAMPLES

231	Latex wastes	Waste latexes, latex crumb and residues.
232	Polymeric resins	Polyester, epoxy, urethane, phenolic resins, intermediates and solvent mixtures.
233	Other polymeric wastes	Off-specification materials, discarded materials from reactors.

#### Halogenated Organic Wastes

241	Halogenated solvents and residues	Spent halogenated solvents and residues such as perchloroethylene, halogenated still bottoms; residues and catalysts from trichloroethylene and carbon tetrachloride (dry cleaning solvents); halogenated hydrocarbon manufacturing or recycling processes.
242	Halogenated pesticides and herbicides	2,4-D, 2,4,5-T wastes, chlordane, mirex, silvex, pesticide solutions and residues.
243	Polychlorinated biphenyls (PCB)	Askarel liquids such as Aroclor, Pydraul, Pyranol, Therminol FR, Inerteen, and other PCB contaminated materials.

#### Oily Wastes

251	Waste oils/sludges (petroleum based)	Oil/water separator sludge; dissolved air flotation skimming; heavy oil tank drainage; slop oil and emulsions.
252	Waste crankcase oils and lubricants	Collected service station waste oils; industrial lubricants; bulk waste oils.
253	Emulsified oils	Soluble oils; waste cutting oils; machine oils.
254	Oily water/waste oil from waste transfer/processing sites	Waste oil and oily water limited to classes 251, 252 and 253 that have been bulked/blended/processed at a waste transfer/processing site.

#### Miscellaneous Organic Wastes and Mixed Wastes

261	Pharmaceuticals	Pharmaceutical and veterinary pharmaceutical wastes other than biologicals and vaccines; solid residues and liquids from veterinary arsenical compounds.
262	Detergents and soaps	Laundry wastes.
263	Miscellaneous waste organic chemicals	Waste organic chemicals including laboratory surplus or off-specification chemicals that are not otherwise specified in this table.



## Ontario Waste Classes

264	Photo processing wastes	Photochemical solutions, washes and sludges.
265	Graphic arts wastes	Adhesives; glues; miscellaneous washes; etch solutions.
266	Phenolic waste streams	Cresylic acid; caustic phenolates; phenolic oils; creosote.
267	Organic acids	Carboxylic or fatty acids; formic, acetic, propionic acid wastes; sulphamic and other organic acids that may be amenable to incineration.
268	Amines	Waste ethanolamines; urea; tolidene; Flexzone waste; Monex waste.
269	Organic non-halogenated pesticide and herbicide wastes	Organophosphorus chemical wastes; arsenicals; wastes from MSMA and cacodylic acid.
270	Other specified organic sludges, slurries and solids	Tank bottoms from mixed organic waste bulking tanks at waste transfer sites; mixed sludges from waste screening/filtration at waste transfer/processing sites not otherwise specified in this table.

### Processed Organic Wastes from Transfer Stations

281	Non-halogenated rich organics	Blended/bulked non-halogenated solvents, oils and other rich organics prepared at transfer/processing sites for incineration.
282	Non-halogenated lean organics	Blended/bulked aqueous wastes prepared at transfer/processing sites for incineration and contaminated with non-halogenated solvents, non-halogenated oils and other non-halogenated organics.

### Plant and Animal Wastes

311	Organic tannery wastes	Fleshings; trimmings; vegetable tan liquors; Bate solutions.
312	Pathological wastes	Human anatomical waste; infected animal carcasses; other non-anatomical waste infected with communicable diseases; biologicals and vaccines.

### OTHER WASTES

#### Explosive Manufacturing Wastes

321	Waste from the manufacture of explosives and detonation products	Wastewater treatment sludge; spent carbon; red/pink waters from TNT manufacturing; residues from lead base initiating compounds.
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#### Compressed Gases

331	Waste compressed gases, including cylinders	Methane(natural gas); nitrous or nitric oxide; propane; butane
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## Ontario Waste Classes

Examples of Common Ministry of the Environment Waste Numbers\*  
(The combination of the 3 digit waste class and waste characterization)

WASTE NUMBERS	EXAMPLES
112C	Corrosive acidic wastes, e.g., battery acid
122C	Corrosive alkaline waste, e.g., alkaline cleaners
145H	Paint wastes and coatings, alkyd or oil based
145L	Paint wastes and coatings, latex or water based
146T	Solid waste with metal contaminants, e.g., some foundry sands, soils, metal dust
148A	Miscellaneous inorganic chemicals, e.g., lab packs
211H	Aromatic solvents, e.g., benzene, toluene, xylene
212H	Aliphatic solvents, e.g., acetone, methyl ethyl ketone (MEK)
212L	Ethylene glycol (antifreeze)
213I	Petroleum distillates, e.g., Varsol
221I	Light fuels, e.g., gasoline, kerosene, diesel
241H	Halogenated solvents, e.g., perchloroethylene (perc from dry cleaners)
243D	PCBs
251L	Oil and water mixtures/sludges (non-emulsified)
252L	Crankcase (engine) oil, lubricants, grease
252T	Crankcase (engine) oil, lubricants containing heavy metals, e.g., lead
253L	Emulsified oil and water, e.g. cutting oil
263A	Miscellaneous organic chemicals, e.g., lab packs
264L	Photo finishing waste, e.g., developer
264T	Photo finishing waste, e.g., fixer
312P	Pathological/biomedical

\* For other wastes, please follow the instructions in this manual.

## North American Industry Classification System (NAICS) 2007

### Appendix B

#### North American Industry Classification System (NAICS) 2007\*

\* Statistics Canada information is used with the permission of Statistics Canada. The NAICS Catalogue no. 12-501-XWE is the new edition of NAICS Canada. The 2007 version represents a revision to NAICS Canada 2002, published in April 2003. Information on the availability of the wide range of data from Statistics Canada can be obtained from Statistics Canada's Regional Offices, its website at <http://www.statcan.gc.ca>, and its toll-free access number 1-800-263-1136.

The superscript symbols at the end of NAICS class titles used to signify comparability are:

CAN	Canadian industry only
MEX	Canadian and Mexican industries are comparable
US	Canadian and United States industries are comparable
[Blank]	[No superscript symbol] Canadian, Mexican and United States industries are comparable

# North American Industry Classification System (NAICS) 2007

Sector	Page	Sector	Page
<b>Agriculture, Forestry, Fishing and Hunting</b>	B-35	Wholesale Electronic Markets, and Agents and Brokers	B-40
Crop Production	B-35	<b>Retail Trade</b>	B-40
Animal Production	B-35	Motor Vehicle and Parts Dealers	B-40
Forestry and Logging	B-35	Furniture and Home Furnishings Stores	B-40
Fishing, Hunting and Trapping	B-35	Electronics and Appliance Stores	B-40
Support Activities for Agriculture and Forestry	B-35	Building Material and Garden Equipment and Supplies Dealers	B-40
<b>Mining and Oil and Gas Extraction</b>	B-35	Food and Beverage Stores	B-40
Oil and Gas Extraction	B-35	Health and Personal Care Stores	B-40
Mining and Quarrying (except Oil and Gas)	B-35	Gasoline Stations	B-40
Support Activities for Mining and Oil and Gas Extraction	B-36	Clothing and Clothing Accessories Stores	B-41
<b>Utilities</b>	B-36	Sporting Goods, Hobby, Book and Music Stores	B-41
Utilities	B-36	General Merchandise Stores	B-41
<b>Construction</b>	B-36	Miscellaneous Store Retailers	B-41
Construction of Buildings	B-36	Non-Store Retailers	B-41
Heavy and Civil Engineering Construction	B-36	<b>Transportation and Warehousing</b>	B-41
Specialty Trade Contractors	B-36	Air Transportation	B-41
<b>Manufacturing</b>	B-36	Rail Transportation	B-41
Food Manufacturing	B-36	Water Transportation	B-41
Beverage and Tobacco Product Manufacturing	B-37	Truck Transportation	B-41
Textile Mills	B-37	Transit and Ground Passenger Transportation	B-41
Textile Product Mills	B-37	Pipeline Transportation	B-41
Clothing Manufacturing	B-37	Scenic and Sightseeing Transportation	B-41
Leather and Allied Product Manufacturing	B-37	Support Activities for Transportation	B-41
Wood Product Manufacturing	B-37	Postal Service	B-42
Paper Manufacturing	B-37	Couriers and Messengers	B-42
Printing and Related Support Activities	B-37	Warehousing and Storage	B-42
Petroleum and Coal Products Manufacturing	B-37	<b>Information and Cultural Industries</b>	B-42
Chemical Manufacturing	B-37	Publishing Industries (except internet)	B-42
Plastics and Rubber Products Manufacturing	B-38	Motion Picture and Sound Recording Industries	B-42
Non-Metallic Mineral Product Manufacturing	B-38	Broadcasting (except Internet)	B-42
Primary Metal Manufacturing	B-38	Internet Publishing and Broadcasting	B-42
Fabricated Metal Product Manufacturing	B-38	Telecommunications	B-42
Machinery Manufacturing	B-38	Data Processing, Hosting, and Related Services	B-42
Computer and Electronic Product Manufacturing	B-38	Other Information Services	B-42
Electrical Equipment, Appliance and Component Manufacturing	B-39	<b>Finance and Insurance</b>	B-42
Transportation Equipment Manufacturing	B-39	Monetary Authorities - Central Bank	B-42
Furniture and Related Product Manufacturing	B-39	Credit Intermediation and Related Activities	B-42
Miscellaneous Manufacturing	B-39	Securities, Commodity Contracts, and Other Financial Investment and Related Activities	B-42
<b>Wholesale Trade</b>	B-39	Insurance Carriers and Related Activities	B-42
Farm Product Wholesaler-Distributors	B-39	Funds and Other Financial Vehicles	B-42
Petroleum Product Wholesaler-Distributors	B-39	<b>Real Estate and Rental and Leasing</b>	B-43
Food, Beverage and Tobacco Wholesaler-Distributors	B-39	Real Estate	B-43
Personal and Household Goods Wholesaler-Distributors	B-39	Rental and Leasing Services	B-43
Motor Vehicle and Parts Wholesaler-Distributors	B-40	Lessors of Non-Financial Intangible Assets (Except Copyrighted Works)	B-43
Building Material and Supplies Wholesaler-Distributors	B-40	<b>Professional, Scientific and Technical Services</b>	B-43
Machinery, Equipment and Supplies Wholesaler-Distributors	B-40	Professional, Scientific and Technical Services	B-43
Miscellaneous Wholesaler-Distributors	B-40	<b>Management of Companies and Enterprises</b>	B-43
		Management of Companies and Enterprises	B-43

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<b>Administrative and Support, Waste Management and Remediation Services</b>	B-43	<b>Accommodation and Food Services</b>	B-45
Administrative and Support Services	B-43	Accommodation Services	B-45
Waste Management and Remediation Services	B-44	Food Services and Drinking Places	B-45
<b>Educational Services</b>	B-44	<b>Other Services (except Public Administration)</b>	B-45
Educational Services	B-44	Repair and Maintenance	B-45
<b>Health Care and Social Assistance</b>	B-44	Personal and Laundry Services	B-45
Ambulatory Health Care Services	B-44	Religious, Grant-Making, Civic, and Professional and Similar Organizations	B-45
Hospitals	B-44	Private Households	B-45
Nursing and Residential Care Facilities	B-44	<b>Public Administration</b>	B-45
Social Assistance	B-44	Federal Government Public Administration	B-45
<b>Arts, Entertainment and Recreation</b>	B-44	Provincial and Territorial Public Administration	B-45
Performing Arts, Spectator Sports and Related Industries	B-44	Local, Municipal and Regional Public Administration	B-46
Heritage Institutions	B-44	Aboriginal Public Administration	B-46
Amusement, Gambling and Recreation Industries	B-45	International and Other Extra-Territorial Public Administration	B-46

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<b>111 Crop Production</b>	
111110 Soybean Farming	
111120 Oilseed (except Soybean) Farming US	
111130 Dry Pea and Bean Farming US	
111140 Wheat Farming	
111150 Corn Farming US	
111160 Rice Farming	
111190 Other Grain Farming CAN	
111211 Potato Farming US	
111219 Other Vegetable (except Potato) and Melon Farming US	
111310 Orange Groves	
111320 Citrus (except Orange) Groves US	
111330 Non-Citrus Fruit and Tree Nut Farming CAN	
111411 Mushroom Production US	
111419 Other Food Crops Grown Under Cover US	
111421 Nursery and Tree Production US	
111422 Floriculture Production US	
111910 Tobacco Farming	
111920 Cotton Farming	
111930 Sugar Cane Farming	
111940 Hay Farming US	
111993 Fruit and Vegetable Combination Farming CAN	
111994 Maple Syrup and Products Production CAN	
111999 All Other Miscellaneous Crop Farming CAN	
<b>112 Animal Production</b>	
112110 Beef Cattle Ranching and Farming, including Feedlots CAN	
112120 Dairy Cattle and Milk Production	
112210 Hog and Pig Farming US	
112310 Chicken Egg Production US	
112320 Broiler and Other Meat-Type Chicken Production	
112330 Turkey Production	
112340 Poultry Hatcheries	
112391 Combination Poultry and Egg Production CAN	
112399 All Other Poultry Production CAN	
112410 Sheep Farming US	

Sector	
112420 Goat Farming	
112510 Aquaculture CAN	
112910 Apiculture	
112920 Horse and Other Equine Production	
112930 Fur-Bearing Animal and Rabbit Production	
112991 Animal Combination Farming CAN	
112999 All Other Miscellaneous Animal Production CAN	
<b>113 Forestry and Logging</b>	
113110 Timber Tract Operations	
113210 Forest Nurseries and Gathering of Forest Products US	
113311 Logging (except Contract) CAN	
113312 Contract Logging CAN	
<b>114 Fishing, Hunting and Trapping</b>	
114113 Salt Water Fishing CAN	
114114 Inland Fishing CAN	
114210 Hunting and Trapping	
<b>115 Support Activities for Agriculture and Forestry</b>	
115110 Support Activities for Crop Production CAN	
115210 Support Activities for Animal Production	
115310 Support Activities for Forestry	
<b>21 Mining and Oil and Gas Extraction</b>	
<b>211 Oil and Gas Extraction</b>	
211113 Conventional Oil and Gas Extraction CAN	
211114 Non-Conventional Oil Extraction CAN	
<b>212 Mining and Quarrying (except Oil and Gas)</b>	
212114 Bituminous Coal Mining CAN	
212115 Subbituminous Coal Mining CAN	
212116 Lignite Coal Mining CAN	
212210 Iron Ore Mining	
212220 Gold and Silver Ore Mining CAN	
212231 Lead-Zinc Ore Mining US	
212232 Nickel-Copper Ore Mining CAN	
212233 Copper-Zinc Ore Mining CAN	
212291 Uranium Ore Mining US	
212299 All Other Metal Ore Mining US	

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Sector	Sector
212314 Granite Mining and Quarrying CAN	238190 Other Foundation, Structure and Building Exterior Contractors US
212315 Limestone Mining and Quarrying CAN	238210 Electrical Contractors and Other Wiring Installation Contractors
212316 Marble Mining and Quarrying CAN	238220 Plumbing, Heating and Air-Conditioning Contractors US
212317 Sandstone Mining and Quarrying CAN	238291 Elevator and Escalator Installation Contractors CAN
212323 Sand and Gravel Mining and Quarrying CAN	238299 All Other Building Equipment Contractors CAN
212326 Shale, Clay and Refractory Mineral Mining and Quarrying CAN	238310 Drywall and Insulation Contractors US
212392 Diamond Mining CAN	238320 Painting and Wall Covering Contractors
212393 Salt Mining CAN	238330 Flooring Contractors
212394 Asbestos Mining CAN	238340 Tile and Terrazzo Contractors
212395 Gypsum Mining CAN	238350 Finish Carpentry Contractors
212396 Potash Mining CAN	238390 Other Building Finishing Contractors
212397 Peat Extraction CAN	238910 Site Preparation Contractors
212398 All Other Non-Metallic Mineral Mining and Quarrying CAN	238990 All Other Specialty Trade Contractors US
<b>213 Support Activities for Mining and Oil and Gas Extraction</b>	
213111 Oil and Gas Contract Drilling	<b>31 - 33 Manufacturing</b>
213117 Contract Drilling (except Oil and Gas) CAN	<b>311 Food Manufacturing</b>
213118 Services to Oil and Gas Extraction CAN	311111 Dog and Cat Food Manufacturing US
213119 Other Support Activities for Mining CAN	311119 Other Animal Food Manufacturing US
	311211 Flour Milling US
<b>22 Utilities</b>	311214 Rice Milling and Malt Manufacturing CAN
<b>221 Utilities US</b>	311221 Wet Corn Milling US
221111 Hydro-Electric Power Generation US	311224 Oilseed Processing CAN
221112 Fossil-Fuel Electric Power Generation US	311225 Fat and Oil Refining and Blending US
221113 Nuclear Electric Power Generation US	311230 Breakfast Cereal Manufacturing
221119 Other Electric Power Generation US	311310 Sugar Manufacturing CAN
221121 Electric Bulk Power Transmission and Control US	311320 Chocolate and Confectionery Manufacturing from Cacao Beans
221122 Electric Power Distribution US	311330 Confectionery Manufacturing from Purchased Chocolate
221210 Natural Gas Distribution US	311340 Non-Chocolate Confectionery Manufacturing
221310 Water Supply and Irrigation Systems US	311410 Frozen Food Manufacturing CAN
221320 Sewage Treatment Facilities US	311420 Fruit and Vegetable Canning, Pickling and Drying CAN
221330 Steam and Air-Conditioning Supply US	311511 Fluid Milk Manufacturing US
	311515 Butter, Cheese, and Dry and Condensed Dairy Product Manufacturing CAN
<b>23 Construction</b>	311520 Ice Cream and Frozen Dessert Manufacturing
<b>236 Construction of Buildings</b>	311611 Animal (except Poultry) Slaughtering US
236110 Residential Building Construction CAN	311614 Rendering and Meat Processing from Carcasses CAN
236210 Industrial Building and Structure Construction US	311615 Poultry Processing US
236220 Commercial and Institutional Building Construction US	311710 Seafood Product Preparation and Packaging MEX
<b>237 Heavy and Civil Engineering Construction</b>	311811 Retail Bakeries US
237110 Water and Sewer Line and Related Structures Construction US	311814 Commercial Bakeries and Frozen Bakery Product Manufacturing CAN
237120 Oil and Gas Pipeline and Related Structures Construction US	311821 Cookie and Cracker Manufacturing US
237130 Power and Communication Line and Related Structures Construction US	311822 Flour Mixes and Dough Manufacturing from Purchased Flour US
237210 Land Subdivision US	311823 Dry Pasta Manufacturing US
237310 Highway, Street and Bridge Construction US	311830 Tortilla Manufacturing
237990 Other Heavy and Civil Engineering Construction US	311911 Roasted Nut and Peanut Butter Manufacturing US
<b>238 Specialty Trade Contractors</b>	311919 Other Snack Food Manufacturing US
238110 Poured Concrete Foundation and Structure Contractors	311920 Coffee and Tea Manufacturing US
238120 Structural Steel and Precast Concrete Contractors US	311930 Flavouring Syrup and Concentrate Manufacturing
238130 Framing Contractors US	311940 Seasoning and Dressing Manufacturing MEX
238140 Masonry Contractors US	311990 All Other Food Manufacturing CAN
238150 Glass and Glazing Contractors US	
238160 Roofing Contractors US	<b>312 Beverage and Tobacco Product Manufacturing</b>
238170 Siding Contractors US	312110 Soft Drink and Ice Manufacturing CAN

## North American Industry Classification System (NAICS) - 2007

Sector	Sector
312120 Breweries	321920 Wood Container and Pallet Manufacturing
312130 Wineries US	321991 Manufactured (Mobile) Home Manufacturing US
312140 Distilleries US	321992 Prefabricated Wood Building Manufacturing US
312210 Tobacco Stemming and Redrying	321999 All Other Miscellaneous Wood Product Manufacturing US
312220 Tobacco Product Manufacturing CAN	<b>322 Paper Manufacturing</b>
<b>313 Textile Mills</b>	322111 Mechanical Pulp Mills CAN
313110 Fibre, Yarn and Thread Mills CAN	322112 Chemical Pulp Mills CAN
313210 Broad-Woven Fabric Mills	322121 Paper (except Newsprint) Mills US
313220 Narrow Fabric Mills and Schiffli Machine Embroidery MEX	322122 Newsprint Mills US
313230 Nonwoven Fabric Mills	322130 Paperboard Mills US
313240 Knit Fabric Mills MEX	322211 Corrugated and Solid Fibre Box Manufacturing US
313310 Textile and Fabric Finishing CAN	322212 Folding Paperboard Box Manufacturing US
313320 Fabric Coating	322219 Other Paperboard Container Manufacturing CAN
<b>314 Textile Product Mills</b>	322220 Paper Bag and Coated and Treated Paper Manufacturing MEX
314110 Carpet and Rug Mills	322230 Stationery Product Manufacturing MEX
314120 Curtain and Linen Mills MEX	322291 Sanitary Paper Product Manufacturing US
314910 Textile Bag and Canvas Mills CAN	322299 All Other Converted Paper Product Manufacturing US
314990 All Other Textile Product Mills CAN	<b>323 Printing and Related Support Activities</b>
<b>315 Clothing Manufacturing</b>	323113 Commercial Screen Printing US
315110 Hosiery and Sock Mills MEX	323114 Quick Printing US
315190 Other Clothing Knitting Mills CAN	323115 Digital Printing US
315210 Cut and Sew Clothing Contracting CAN	323116 Manifold Business Forms Printing US
315221 Men's and Boys' Cut and Sew Underwear and Nightwear Manufacturing US	323119 Other Printing CAN
315222 Men's and Boys' Cut and Sew Suit, Coat and Overcoat Manufacturing US	323120 Support Activities for Printing MEX
315226 Men's and Boys' Cut and Sew Shirt Manufacturing CAN	<b>324 Petroleum and Coal Product Manufacturing</b>
315227 Men's and Boys' Cut and Sew Trouser, Slack and Jean Manufacturing CAN	324110 Petroleum Refineries
315229 Other Men's and Boys' Cut and Sew Clothing Manufacturing CAN	324121 Asphalt Paving Mixture and Block Manufacturing US
315231 Women's and Girls' Cut and Sew Lingerie, Loungewear and Nightwear Manufacturing US	324122 Asphalt Shingle and Coating Material Manufacturing US
315232 Women's and Girls' Cut and Sew Blouse and Shirt Manufacturing US	324190 Other Petroleum and Coal Product Manufacturing CAN
315233 Women's and Girls' Cut and Sew Dress Manufacturing US	<b>325 Chemical Manufacturing</b>
315234 Women's and Girls' Cut and Sew Suit, Coat, Tailored Jacket and Skirt Manufacturing US	325110 Petrochemical Manufacturing
315239 Other Women's and Girls' Cut and Sew Clothing Manufacturing US	325120 Industrial Gas Manufacturing
315291 Infants' Cut and Sew Clothing Manufacturing US	325130 Synthetic Dye and Pigment Manufacturing MEX
315292 Fur and Leather Clothing Manufacturing US	325181 Alkali and Chlorine Manufacturing US
315299 All Other Cut and Sew Clothing Manufacturing US	325189 All Other Basic Inorganic Chemical Manufacturing CAN
315990 Clothing Accessories and Other Clothing Manufacturing CAN	325190 Other Basic Organic Chemical Manufacturing MEX
<b>316 Leather and Allied Product Manufacturing</b>	325210 Resin and Synthetic Rubber Manufacturing CAN
316110 Leather and Hide Tanning and Finishing	325220 Artificial and Synthetic Fibres and Filaments Manufacturing MEX
316210 Footwear Manufacturing CAN	325313 Chemical Fertilizer (except Potash) Manufacturing CAN
316990 Other Leather and Allied Product Manufacturing CAN	325314 Mixed Fertilizer Manufacturing US
<b>321 Wood Product Manufacturing</b>	325320 Pesticide and Other Agricultural Chemical Manufacturing
321111 Sawmills (except Shingle and Shake Mills) MEX	325410 Pharmaceutical and Medicine Manufacturing CAN
321112 Shingle and Shake Mills MEX	325510 Paint and Coating Manufacturing
321114 Wood Preservation US	325520 Adhesive Manufacturing
321211 Hardwood Veneer and Plywood Mills US	325610 Soap and Cleaning Compound Manufacturing MEX
321212 Softwood Veneer and Plywood Mills US	325620 Toilet Preparation Manufacturing
321215 Structural Wood Product Manufacturing CAN	325910 Printing Ink Manufacturing
321216 Particle Board and Fibreboard Mills CAN	325920 Explosives Manufacturing
321217 Waferboard Mills CAN	325991 Custom Compounding of Purchased Resins US
321911 Wood Window and Door Manufacturing US	325999 All Other Miscellaneous Chemical Product Manufacturing CAN
321919 Other Millwork CAN	<b>326 Plastics and Rubber Products Manufacturing</b>
	326111 Plastic Bag and Pouch Manufacturing US
	326114 Plastic Film and Sheet Manufacturing CAN

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Sector	Sector
326121 Unlaminated Plastic Profile Shape Manufacturing US	332439 Other Metal Container Manufacturing US
326122 Plastic Pipe and Pipe Fitting Manufacturing US	332510 Hardware Manufacturing
326130 Laminated Plastic Plate, Sheet (except Packaging), and Shape Manufacturing	332611 Spring (Heavy Gauge) Manufacturing US
326140 Polystyrene Foam Product Manufacturing	332619 Other Fabricated Wire Product Manufacturing CAN
326150 Urethane and Other Foam Product (except Polystyrene) Manufacturing	332710 Machine Shops
326160 Plastic Bottle Manufacturing	332720 Turned Product and Screw, Nut and Bolt Manufacturing MEX
326191 Plastic Plumbing Fixture Manufacturing US	332810 Coating, Engraving, Heat Treating and Allied Activities MEX
326193 Motor Vehicle Plastic Parts Manufacturing CAN	332910 Metal Valve Manufacturing MEX
326196 Plastic Window and Door Manufacturing CAN	332991 Ball and Roller Bearing Manufacturing
326198 All Other Plastic Product Manufacturing CAN	332999 All Other Miscellaneous Fabricated Metal Product Manufacturing MEX
326210 Tire Manufacturing CAN	<b>333 Machinery Manufacturing</b>
326220 Rubber and Plastic Hose and Belting Manufacturing	333110 Agricultural Implement Manufacturing CAN
326290 Other Rubber Product Manufacturing MEX	333120 Construction Machinery Manufacturing
<b>327 Non-Metallic Mineral Product Manufacturing</b>	333130 Mining and Oil and Gas Field Machinery Manufacturing MEX
327110 Pottery, Ceramics and Plumbing Fixture Manufacturing CAN	333210 Sawmill and Woodworking Machinery Manufacturing
327120 Clay Building Material and Refractory Manufacturing CAN	333220 Rubber and Plastics Industry Machinery Manufacturing
327214 Glass Manufacturing CAN	333291 Paper Industry Machinery Manufacturing US
327215 Glass Product Manufacturing from Purchased Glass US	333299 All Other Industrial Machinery Manufacturing CAN
327310 Cement Manufacturing	333310 Commercial and Service Industry Machinery Manufacturing CAN
327320 Ready-Mix Concrete Manufacturing	333413 Industrial and Commercial Fan and Blower and Air Purification Equipment Manufacturing CAN
327330 Concrete Pipe, Brick and Block Manufacturing MEX	333416 Heating Equipment and Commercial Refrigeration Equipment Manufacturing CAN
327390 Other Concrete Product Manufacturing US	333511 Industrial Mould Manufacturing US
327410 Lime Manufacturing	333519 Other Metalworking Machinery Manufacturing CAN
327420 Gypsum Product Manufacturing	333611 Turbine and Turbine Generator Set Unit Manufacturing US
327910 Abrasive Product Manufacturing	333619 Other Engine and Power Transmission Equipment Manufacturing CAN
327990 All Other Non-Metallic Mineral Product Manufacturing CAN	333910 Pump and Compressor Manufacturing CAN
<b>331 Primary Metal Manufacturing</b>	333920 Material Handling Equipment Manufacturing MEX
331110 Iron and Steel Mills and Ferro-Alloy Manufacturing CAN	333990 All Other General-Purpose Machinery Manufacturing CAN
331210 Iron and Steel Pipes and Tubes Manufacturing from Purchased Steel	<b>334 Computer and Electronic Product Manufacturing</b>
331221 Cold-Rolled Steel Shape Manufacturing US	334110 Computer and Peripheral Equipment Manufacturing MEX
331222 Steel Wire Drawing US	334210 Telephone Apparatus Manufacturing
331313 Primary Production of Alumina and Aluminum CAN	334220 Radio and Television Broadcasting and Wireless Communications Equipment Manufacturing
331317 Aluminum Rolling, Drawing, Extruding and Alloying CAN	334290 Other Communications Equipment Manufacturing
331410 Non-Ferrous Metal (except Aluminum) Smelting and Refining CAN	334310 Audio and Video Equipment Manufacturing
331420 Copper Rolling, Drawing, Extruding and Alloying MEX	334410 Semiconductor and Other Electronic Component Manufacturing MEX
331490 Non-Ferrous Metal (except Copper and Aluminum) Rolling, Drawing, Extruding and Alloying CAN	334511 Navigational and Guidance Instruments Manufacturing US
331511 Iron Foundries US	334512 Measuring, Medical and Controlling Devices Manufacturing CAN
331514 Steel Foundries CAN	334610 Manufacturing and Reproducing Magnetic and Optical Media MEX
331523 Non-Ferrous Die-Casting Foundries CAN	<b>335 Electrical Equipment, Appliance and Component Manufacturing</b>
331529 Non-Ferrous Foundries (except Die-Casting) CAN	335110 Electric Lamp Bulb and Parts Manufacturing
<b>332 Fabricated Metal Product Manufacturing</b>	335120 Lighting Fixture Manufacturing CAN
332113 Forging CAN	335210 Small Electrical Appliance Manufacturing MEX
332118 Stamping CAN	335223 Major Kitchen Appliance Manufacturing CAN
332210 Cutlery and Hand Tool Manufacturing CAN	335229 Other Major Appliance Manufacturing CAN
332311 Prefabricated Metal Building and Component Manufacturing US	335311 Power, Distribution and Specialty Transformers Manufacturing US
332314 Concrete Reinforcing Bar Manufacturing CAN	335312 Motor and Generator Manufacturing US
332319 Other Plate Work and Fabricated Structural Product Manufacturing CAN	335315 Switchgear and Switchboard, and Relay and Industrial Control Apparatus Manufacturing CAN
332321 Metal Window and Door Manufacturing US	
332329 Other Ornamental and Architectural Metal Product Manufacturing CAN	
332410 Power Boiler and Heat Exchanger Manufacturing	
332420 Metal Tank (Heavy Gauge) Manufacturing	
332431 Metal Can Manufacturing US	



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Sector		Sector	
335910	Battery Manufacturing CAN	413	<b>Food, Beverage and Tobacco Wholesaler-Distributors CAN</b>
335920	Communication and Energy Wire and Cable Manufacturing CAN	413110	General-Line Food Wholesaler-Distributors CAN
335930	Wiring Device Manufacturing CAN	413120	Dairy and Milk Products Wholesaler-Distributors CAN
335990	All Other Electrical Equipment and Component Manufacturing CAN	413130	Poultry and Egg Wholesaler-Distributors CAN
<b>336</b>	<b>Transportation Equipment Manufacturing</b>	413140	Fish and Seafood Product Wholesaler-Distributors CAN
336110	Automobile and Light-Duty Motor Vehicle Manufacturing MEX	413150	Fresh Fruit and Vegetable Wholesaler-Distributors CAN
336120	Heavy-Duty Truck Manufacturing	413160	Red Meat and Meat Product Wholesaler-Distributors CAN
336211	Motor Vehicle Body Manufacturing US	413190	Other Specialty-Line Food Wholesaler-Distributors CAN
336212	Truck Trailer Manufacturing US	413210	Non-Alcoholic Beverage Wholesaler-Distributors CAN
336215	Motor Home, Travel Trailer and Camper Manufacturing CAN	413220	Alcoholic Beverage Wholesaler-Distributors CAN
336310	Motor Vehicle Gasoline Engine and Engine Parts Manufacturing MEX	413310	Cigarette and Tobacco Product Wholesaler-Distributors CAN
336320	Motor Vehicle Electrical and Electronic Equipment Manufacturing MEX	<b>414</b>	<b>Personal and Household Goods Wholesaler-Distributors CAN</b>
336330	Motor Vehicle Steering and Suspension Components (except Spring) Manufacturing	414110	Clothing and Clothing Accessories Wholesaler-Distributors CAN
336340	Motor Vehicle Brake System Manufacturing	414120	Footwear Wholesaler-Distributors CAN
336350	Motor Vehicle Transmission and Power Train Parts Manufacturing	414130	Piece Goods, Notions and Other Dry Goods Wholesaler-Distributors CAN
336360	Motor Vehicle Seating and Interior Trim Manufacturing	414210	Home Entertainment Equipment Wholesaler-Distributors CAN
336370	Motor Vehicle Metal Stamping	414220	Household Appliance Wholesaler-Distributors CAN
336390	Other Motor Vehicle Parts Manufacturing MEX	414310	China, Glassware, Crockery and Pottery Wholesaler-Distributors CAN
336410	Aerospace Product and Parts Manufacturing MEX	414320	Floor Covering Wholesaler-Distributors CAN
336510	Railroad Rolling Stock Manufacturing	414330	Linen, Drapery and Other Textile Furnishings Wholesaler-Distributors CAN
336611	Ship Building and Repairing US	414390	Other Home Furnishings Wholesaler-Distributors CAN
336612	Boat Building US	414410	Jewellery and Watch Wholesaler-Distributors CAN
336990	Other Transportation Equipment Manufacturing CAN	414420	Book, Periodical and Newspaper Wholesaler-Distributors CAN
<b>337</b>	<b>Furniture and Related Product Manufacturing</b>	414430	Photographic Equipment and Supplies Wholesaler-Distributors CAN
337110	Wood Kitchen Cabinet and Counter Top Manufacturing	414440	Sound Recording Wholesalers CAN
337121	Upholstered Household Furniture Manufacturing US	414450	Video Cassette Wholesalers CAN
337123	Other Wood Household Furniture Manufacturing CAN	414460	Toy and Hobby Goods Wholesaler-Distributors CAN
337126	Household Furniture (except Wood and Upholstered) Manufacturing CAN	414470	Amusement and Sporting Goods Wholesaler-Distributors CAN
337127	Institutional Furniture Manufacturing US	414510	Pharmaceuticals and Pharmacy Supplies Wholesaler-Distributors CAN
337213	Wood Office Furniture, including Custom Architectural Woodwork, Manufacturing CAN	414520	Toiletries, Cosmetics and Sundries Wholesaler-Distributors CAN
337214	Office Furniture (except Wood) Manufacturing US	<b>415</b>	<b>Motor Vehicle and Parts Wholesaler-Distributors CAN</b>
337215	Showcase, Partition, Shelving and Locker Manufacturing US	415110	New and Used Automobile and Light-Duty Truck Wholesaler-Distributors CAN
337910	Mattress Manufacturing	415120	Truck, Truck Tractor and Bus Wholesaler-Distributors CAN
337920	Blind and Shade Manufacturing	415190	Recreational and Other Motor Vehicles Wholesaler-Distributors CAN
<b>339</b>	<b>Miscellaneous Manufacturing</b>	415210	Tire Wholesaler-Distributors CAN
339110	Medical Equipment and Supplies Manufacturing CAN	415290	Other New Motor Vehicle Parts and Accessories Wholesaler-Distributors CAN
339910	Jewellery and Silverware Manufacturing CAN	415310	Used Motor Vehicle Parts and Accessories Wholesaler-Distributors CAN
339920	Sporting and Athletic Goods Manufacturing	<b>416</b>	<b>Building Material and Supplies Wholesaler-Distributors CAN</b>
339930	Doll, Toy and Game Manufacturing MEX	416110	Electrical Wiring and Construction Supplies Wholesaler-Distributors CAN
339940	Office Supplies (except Paper) Manufacturing MEX	416120	Plumbing, Heating and Air-Conditioning Equipment and Supplies Wholesaler-Distributors CAN
339950	Sign Manufacturing	416210	Metal Service Centres CAN
339990	All Other Miscellaneous Manufacturing CAN	416310	General-Line Building Supplies Wholesaler-
<b>41</b>	<b>Wholesale Trade</b>		
<b>411</b>	<b>Farm Product Wholesaler-Distributors CAN</b>		
411110	Live Animal Wholesaler-Distributors CAN		
411120	Oilseed and Grain Wholesaler-Distributors CAN		
411130	Nursery Stock and Plant Wholesaler-Distributors CAN		
411190	Other Farm Product Wholesaler-Distributors CAN		
<b>412</b>	<b>Petroleum Product Wholesaler-Distributors CAN</b>		
412110	Petroleum Product Wholesaler-Distributors CAN		

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	Sector
	Distributors CAN
416320	Lumber, Plywood and Millwork Wholesaler-Distributors CAN
416330	Hardware Wholesaler-Distributors CAN
416340	Paint, Glass and Wallpaper Wholesaler-Distributors CAN
416390	Other Specialty-Line Building Supplies Wholesaler-Distributors CAN
<b>417</b>	<b>Machinery, Equipment and Supplies Wholesaler-Distributors CAN</b>
417110	Farm, Lawn and Garden Machinery and Equipment Wholesaler-Distributors CAN
417210	Construction and Forestry Machinery, Equipment and Supplies Wholesaler-Distributors CAN
417220	Mining and Oil and Gas Well Machinery, Equipment and Supplies Wholesaler-Distributors CAN
417230	Industrial Machinery, Equipment and Supplies Wholesaler-Distributors CAN
417310	Computer, Computer Peripheral and Pre-Packaged Software Wholesaler-Distributors CAN
417320	Electronic Components, Navigational and Communications Equipment and Supplies Wholesaler-Distributors CAN
417910	Office and Store Machinery and Equipment Wholesaler-Distributors CAN
417920	Service Establishment Machinery, Equipment and Supplies Wholesaler-Distributors CAN
417930	Professional Machinery, Equipment and Supplies Wholesaler-Distributors CAN
417990	All Other Machinery, Equipment and Supplies Wholesaler-Distributors CAN
<b>418</b>	<b>Miscellaneous Wholesaler-Distributors CAN</b>
418110	Recyclable Metal Wholesaler-Distributors CAN
418120	Recyclable Paper and Paperboard Wholesaler-Distributors CAN
418190	Other Recyclable Material Wholesaler-Distributors CAN
418210	Stationery and Office Supplies Wholesaler-Distributors CAN
418220	Other Paper and Disposable Plastic Product Wholesaler-Distributors CAN
418310	Agricultural Feed Wholesaler-Distributors CAN
418320	Seed Wholesaler-Distributors CAN
418390	Agricultural Chemical and Other Farm Supplies Wholesaler-Distributors CAN
418410	Chemical (except Agricultural) and Allied Product Wholesaler-Distributors CAN
418910	Log and Wood Chip Wholesaler-Distributors CAN
418920	Mineral, Ore and Precious Metal Wholesaler-Distributors CAN
418930	Second-Hand Goods (except Machinery and Automotive) Wholesaler-Distributors CAN
418990	All Other Wholesaler-Distributors CAN
<b>419</b>	<b>Wholesale Electronic Markets, and Agents and Brokers US</b>
419110	Business-to-Business Electronic Markets US
419120	Wholesale Trade Agents and Brokers US
<b>44-45</b>	<b>Retail Trade</b>
<b>441</b>	<b>Motor Vehicle and Parts Dealers US</b>
441110	New Car Dealers US
441120	Used Car Dealers US
441210	Recreational Vehicle Dealers US
441220	Motorcycle, Boat and Other Motor Vehicle Dealers CAN
441310	Automotive Parts and Accessories Stores US
441320	Tire Dealers US

	Sector
<b>442</b>	<b>Furniture and Home Furnishings Stores US</b>
442110	Furniture Stores US
442210	Floor Covering Stores US
442291	Window Treatment Stores US
442292	Print and Picture Frame Stores CAN
442298	All Other Home Furnishings Stores CAN
<b>443</b>	<b>Electronics and Appliance Stores US</b>
443110	Appliance, Television and Other Electronics Stores CAN
443120	Computer and Software Stores US
443130	Camera and Photographic Supplies Stores US
<b>444</b>	<b>Building Material and Garden Equipment and Supplies Dealers US</b>
444110	Home Centres US
444120	Paint and Wallpaper Stores US
444130	Hardware Stores US
444190	Other Building Material Dealers US
444210	Outdoor Power Equipment Stores US
444220	Nursery Stores and Garden Centres US
<b>445</b>	<b>Food and Beverage Stores US</b>
445110	Supermarkets and Other Grocery (except Convenience) Stores US
445120	Convenience Stores US
445210	Meat Markets US
445220	Fish and Seafood Markets US
445230	Fruit and Vegetable Markets US
445291	Baked Goods Stores US
445292	Confectionery and Nut Stores US
445299	All Other Specialty Food Stores US
445310	Beer, Wine and Liquor Stores US
<b>446</b>	<b>Health and Personal Care Stores US</b>
446110	Pharmacies and Drug Stores US
446120	Cosmetics, Beauty Supplies and Perfume Stores US
446130	Optical Goods Stores US
446191	Food (Health) Supplement Stores US
446199	All Other Health and Personal Care Stores US
<b>447</b>	<b>Gasoline Stations US</b>
447110	Gasoline Stations with Convenience Stores US
447190	Other Gasoline Stations US
<b>448</b>	<b>Clothing and Clothing Accessories Stores US</b>
448110	Men's Clothing Stores US
448120	Women's Clothing Stores US
448130	Children's and Infants' Clothing Stores US
448140	Family Clothing Stores US
448150	Clothing Accessories Stores US
448191	Fur Stores CAN
448199	All Other Clothing Stores CAN
448210	Shoe Stores US
448310	Jewellery Stores US
448320	Luggage and Leather Goods Stores US
<b>451</b>	<b>Sporting Goods, Hobby, Book and Music Stores US</b>
451110	Sporting Goods Stores US
451120	Hobby, Toy and Game Stores US
451130	Sewing, Needlework and Piece Goods Stores US
451140	Musical Instrument and Supplies Stores US
451210	Book Stores and News Dealers CAN
451220	Pre-Recorded Tape, Compact Disc and Record Stores US
<b>452</b>	<b>General Merchandise Stores US</b>
452110	Department Stores CAN

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Sector	
452910	Warehouse Clubs and Superstores US
452991	Home and Auto Supplies Stores CAN
452999	All Other Miscellaneous General Merchandise Stores CAN
<b>453</b>	<b>Miscellaneous Store Retailers US</b>
453110	Florists US
453210	Office Supplies and Stationery Stores US
453220	Gift, Novelty and Souvenir Stores US
453310	Used Merchandise Stores US
453910	Pet and Pet Supplies Stores US
453920	Art Dealers US
453930	Mobile Home Dealers US
453992	Beer and Wine-Making Supplies Stores CAN
453999	All Other Miscellaneous Store Retailers (except Beer and Wine-Making Supplies Stores) CAN
<b>454</b>	<b>Non-Store Retailers US</b>
454111	Internet Shopping US
454112	Electronic Auctions US
454113	Mail-Order Houses US
454210	Vending Machine Operators US
454311	Heating Oil Dealers US
454312	Liquefied Petroleum Gas (Bottled Gas) Dealers US
454319	Other Fuel Dealers US
454390	Other Direct Selling Establishments US
<b>48-49</b>	<b>Transportation and Warehousing</b>
<b>481</b>	<b>Air Transportation</b>
481110	Scheduled Air Transportation CAN
481214	Non-Scheduled Chartered Air Transportation CAN
481215	Non-Scheduled Specialty Flying Services CAN
<b>482</b>	<b>Rail Transportation</b>
482112	Short-Haul Freight Rail Transportation US
482113	Mainline Freight Rail Transportation CAN
482114	Passenger Rail Transportation CAN
<b>483</b>	<b>Water Transportation</b>
483115	Deep Sea, Coastal and Great Lakes Water Transportation (except by Ferries) CAN
483116	Deep Sea, Coastal and Great Lakes Water Transportation by Ferries CAN
483213	Inland Water Transportation (except by Ferries) CAN
483214	Inland Water Transportation by Ferries CAN
<b>484</b>	<b>Truck Transportation</b>
484110	General Freight Trucking, Local US
484121	General Freight Trucking, Long Distance, Truck-Load US
484122	General Freight Trucking, Long Distance, Less Than Truck-Load US
484210	Used Household and Office Goods Moving
484221	Bulk Liquids Trucking, Local CAN
484222	Dry Bulk Materials Trucking, Local CAN
484223	Forest Products Trucking, Local CAN
484229	Other Specialized Freight (except Used Goods) Trucking, Local CAN
484231	Bulk Liquids Trucking, Long Distance CAN
484232	Dry Bulk Materials Trucking, Long Distance CAN
484233	Forest Products Trucking, Long Distance CAN
484239	Other Specialized Freight (except Used Goods) Trucking, Long Distance CAN

Sector	
<b>485</b>	<b>Transit and Ground Passenger Transportation</b>
485110	Urban Transit Systems CAN
485210	Interurban and Rural Bus Transportation
485310	Taxi Service US
485320	Limousine Service
485410	School and Employee Bus Transportation
485510	Charter Bus Industry
485990	Other Transit and Ground Passenger Transportation CAN
<b>486</b>	<b>Pipeline Transportation</b>
486110	Pipeline Transportation of Crude Oil
486210	Pipeline Transportation of Natural Gas
486910	Pipeline Transportation of Refined Petroleum Products
486990	All Other Pipeline Transportation
<b>487</b>	<b>Scenic and Sightseeing Transportation</b>
487110	Scenic and Sightseeing Transportation, Land
487210	Scenic and Sightseeing Transportation, Water
487990	Scenic and Sightseeing Transportation, Other
<b>488</b>	<b>Support Activities for Transportation</b>
488111	Air Traffic Control
488119	Other Airport Operations US
488190	Other Support Activities for Air Transportation
488210	Support Activities for Rail Transportation
488310	Port and Harbour Operations
488320	Marine Cargo Handling
488331	Marine Salvage Services CAN
488332	Ship Piloting Services CAN
488339	Other Navigational Services to Shipping CAN
488390	Other Support Activities for Water Transportation
488410	Motor Vehicle Towing
488490	Other Support Activities for Road Transportation US
488511	Marine Shipping Agencies CAN
488519	Other Freight Transportation Arrangement CAN
488990	Other Support Activities for Transportation MEX
<b>491</b>	<b>Postal Service</b>
491110	Postal Service
<b>492</b>	<b>Couriers and Messengers</b>
492110	Couriers
492210	Local Messengers and Local Delivery
<b>493</b>	<b>Warehousing and Storage</b>
493110	General Warehousing and Storage US
493120	Refrigerated Warehousing and Storage
493130	Farm Product Warehousing and Storage
493190	Other Warehousing and Storage
<b>51</b>	<b>Information and Cultural Industries</b>
<b>511</b>	<b>Publishing Industries (except Internet)</b>
511110	Newspaper Publishers US
511120	Periodical Publishers US
511130	Book Publishers US
511140	Directory and Mailing List Publishers US
511190	Other Publishers CAN
511210	Software Publishers
<b>512</b>	<b>Motion Picture and Sound Recording Industries</b>
512110	Motion Picture and Video Production US
512120	Motion Picture and Video Distribution
512130	Motion Picture and Video Exhibition MEX

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Sector	
512190	Post-Production and Other Motion Picture and Video Industries MEX
512210	Record Production
512220	Integrated Record Production/Distribution
512230	Music Publishers
512240	Sound Recording Studios
512290	Other Sound Recording Industries
<b>515</b>	<b>Broadcasting (except Internet)</b>
515110	Radio Broadcasting MEX
515120	Television Broadcasting
515210	Pay and Specialty Television
<b>517</b>	<b>Telecommunications</b>
517111	Wired Telecommunications Carriers (except Cable) CAN
517112	Cable and Other Program Distribution CAN
517210	Wireless Telecommunications Carriers (except Satellite) MEX
517410	Satellite Telecommunications
517910	Other Telecommunications
<b>518</b>	<b>Data Processing, Hosting, and Related Services</b>
518210	Data Processing, Hosting, and Related Services
<b>519</b>	<b>Other Information Services</b>
519110	News Syndicates
519121	Libraries CAN
519122	Archives CAN
519130	Internet Publishing and Broadcasting, and Web Search Portals
519190	All Other Information Services
 <b>52</b>	 <b>Finance and Insurance</b>
<b>521</b>	<b>Monetary Authorities - Central Bank</b>
521110	Monetary Authorities - Central Bank
<b>522</b>	<b>Credit Intermediation and Related Activities</b>
522111	Personal and Commercial Banking Industry CAN
522112	Corporate and Institutional Banking Industry CAN
522130	Local Credit Unions US
522190	Other Depository Credit Intermediation US
522210	Credit Card Issuing US
522220	Sales Financing US
522291	Consumer Lending US
522299	All Other Non-Depository Credit Intermediation CAN
522310	Mortgage and Non-mortgage Loan Brokers US
522321	Central Credit Unions CAN
522329	Other Financial Transactions Processing and Clearing House Activities CAN
522390	Other Activities Related to Credit Intermediation US
<b>523</b>	<b>Securities, Commodity Contracts, and Other Financial Investment and Related Activities</b>
523110	Investment Banking and Securities Dealing US
523120	Securities Brokerage US
523130	Commodity Contracts Dealing US
523140	Commodity Contracts Brokerage US
523210	Securities and Commodity Exchanges
523910	Miscellaneous Intermediation US
523920	Portfolio Management US
523930	Investment Advice US
523990	All Other Financial Investment Activities CAN
<b>524</b>	<b>Insurance Carriers and Related Activities</b>
524111	Direct Individual Life, Health and Medical Insurance Carriers CAN

Sector	
524112	Direct Group Life, Health and Medical Insurance Carriers CAN
524121	Direct General Property and Casualty Insurance Carriers CAN
524122	Direct, Private, Automobile Insurance Carriers CAN
524123	Direct, Public, Automobile Insurance Carriers CAN
524124	Direct Property Insurance Carriers CAN
524125	Direct Liability Insurance Carriers CAN
524129	Other Direct Insurance (except Life, Health and Medical) Carriers CAN
524131	Life Reinsurance Carriers CAN
524132	Accident and Sickness Reinsurance Carriers CAN
524133	Automobile Reinsurance Carriers CAN
524134	Property Reinsurance Carriers CAN
524135	Liability Reinsurance Carriers CAN
524139	General and Other Reinsurance Carriers CAN
524210	Insurance Agencies and Brokerages US
524291	Claims Adjusters US
524299	All Other Insurance Related Activities CAN
<b>526</b>	<b>Funds and Other Financial Vehicles CAN</b>
526111	Trusteed Pension Funds CAN
526112	Non-Trusteed Pension Funds CAN
526911	Equity Funds - Canadian CAN
526912	Equity Funds - Foreign CAN
526913	Mortgage Funds CAN
526914	Money Market Funds CAN
526915	Bond and Income / Dividend Funds - Canadian CAN
526916	Bond and Income / Dividend Funds - Foreign CAN
526917	Balanced Funds / Asset Allocation Funds CAN
526919	Other Open-Ended Funds CAN
526930	Segregated (except Pension) Funds CAN
526981	Securitization Vehicles CAN
526989	All Other Miscellaneous Funds and Financial Vehicles CAN
 <b>53</b>	 <b>Real Estate and Rental and Leasing</b>
<b>531</b>	<b>Real Estate</b>
531111	Lessors of Residential Buildings and Dwellings (except Social Housing Projects) CAN
531112	Lessors of Social Housing Projects CAN
531120	Lessors of Non-Residential Buildings (except Mini-Warehouses) US
531130	Self-Storage Mini-Warehouses US
531190	Lessors of Other Real Estate Property US
531211	Real Estate Agents CAN
531212	Offices of Real Estate Brokers CAN
531310	Real Estate Property Managers CAN
531320	Offices of Real Estate Appraisers US
531390	Other Activities Related to Real Estate US
<b>532</b>	<b>Rental and Leasing Services</b>
532111	Passenger Car Rental US
532112	Passenger Car Leasing US
532120	Truck, Utility Trailer and RV (Recreational Vehicle) Rental and Leasing US
532210	Consumer Electronics and Appliance Rental
532220	Formal Wear and Costume Rental
532230	Video Tape and Disc Rental
532290	Other Consumer Goods Rental CAN
532310	General Rental Centres
532410	Construction, Transportation, Mining, and Forestry Machinery and Equipment Rental and Leasing CAN

# North American Industry Classification System (NAICS) - 2007

Sector		Sector	
532420	Office Machinery and Equipment Rental and Leasing	551113	Holding Companies CAN
532490	Other Commercial and Industrial Machinery and Equipment Rental and Leasing US	551114	Head Offices US
<b>533</b>	<b>Lessors of Non-Financial Intangible Assets (Except Copyrighted Works)</b>	<b>56</b>	<b>Administrative and Support, Waste Management and Remediation Services</b>
533110	Lessors of Non-Financial Intangible Assets (Except Copyrighted Works)	<b>561</b>	<b>Administrative and Support Services</b>
<b>54</b>	<b>Professional, Scientific and Technical Services</b>	561110	Office Administrative Services
<b>541</b>	<b>Professional, Scientific and Technical Services</b>	561210	Facilities Support Services
541110	Offices of Lawyers	561310	Employment Placement Agencies and Executive Search Services
541120	Offices of Notaries	561320	Temporary Help Services
541190	Other Legal Services MEX	561330	Professional Employer Organizations
541212	Offices of Accountants CAN	561410	Document Preparation Services
541213	Tax Preparation Services US	561420	Telephone Call Centres CAN
541215	Bookkeeping, Payroll and Related Services CAN	561430	Business Service Centres CAN
541310	Architectural Services	561440	Collection Agencies
541320	Landscape Architectural Services	561450	Credit Bureaus
541330	Engineering Services	561490	Other Business Support Services MEX
541340	Drafting Services	561510	Travel Agencies
541350	Building Inspection Services	561520	Tour Operators
541360	Geophysical Surveying and Mapping Services	561590	Other Travel Arrangement and Reservation Services MEX
541370	Surveying and Mapping (except Geophysical) Services	561611	Investigation Services US
541380	Testing Laboratories	561612	Security Guard and Patrol Services US
541410	Interior Design Services	561613	Armoured Car Services US
541420	Industrial Design Services	561621	Security Systems Services (except Locksmiths) US
541430	Graphic Design Services	561622	Locksmiths US
541490	Other Specialized Design Services	561710	Exterminating and Pest Control Services
541510	Computer Systems Design and Related Services MEX	561721	Window Cleaning Services CAN
541611	Administrative Management and General Management Consulting Services US	561722	Janitorial Services (except Window Cleaning) CAN
541612	Human Resources Consulting Services US	561730	Landscaping Services
541619	Other Management Consulting Services CAN	561740	Carpet and Upholstery Cleaning Services
541620	Environmental Consulting Services	561791	Duct and Chimney Cleaning Services CAN
541690	Other Scientific and Technical Consulting Services	561799	All Other Services to Buildings and Dwellings CAN
541710	Research and Development in the Physical, Engineering and Life Sciences CAN	561910	Packaging and Labelling Services
541720	Research and Development in the Social Sciences and Humanities US	561920	Convention and Trade Show Organizers
541810	Advertising Agencies	561990	All Other Support Services
541820	Public Relations Services	<b>562</b>	<b>Waste Management and Remediation Services</b>
541830	Media Buying Agencies	562110	Waste Collection CAN
541840	Media Representatives	562210	Waste Treatment and Disposal CAN
541850	Display Advertising	562910	Remediation Services US
541860	Direct Mail Advertising	562920	Material Recovery Facilities US
541870	Advertising Material Distribution Services	562990	All Other Waste Management Services CAN
541891	Specialty Advertising Distributors CAN	<b>61</b>	<b>Educational Services</b>
541899	All Other Services Related to Advertising CAN	<b>611</b>	<b>Educational Services</b>
541910	Marketing Research and Public Opinion Polling	611110	Elementary and Secondary Schools US
541920	Photographic Services MEX	611210	Community Colleges and C.E.G.E.P.s US
541930	Translation and Interpretation Services	611310	Universities US
541940	Veterinary Services US	611410	Business and Secretarial Schools US
541990	All Other Professional, Scientific and Technical Services	611420	Computer Training US
<b>55</b>	<b>Management of Companies and Enterprises</b>	611430	Professional and Management Development Training US
<b>551</b>	<b>Management of Companies and Enterprises</b>	611510	Technical and Trade Schools CAN
		611610	Fine Arts Schools US
		611620	Athletic Instruction US
		611630	Language Schools US
		611690	All Other Schools and Instruction CAN

# North American Industry Classification System (NAICS) - 2007

Sector		Sector	
611710	Educational Support Services	711211	Sports Teams and Clubs US
<b>62</b>	<b>Health Care and Social Assistance</b>	711213	Horse Race Tracks CAN
<b>621</b>	<b>Ambulatory Health Care Services</b>	711218	Other Spectator Sports CAN
621110	Offices of Physicians CAN	711311	Live Theatres and Other Performing Arts Presenters with Facilities CAN
621210	Offices of Dentists US	711319	Sports Stadiums and Other Presenters with Facilities CAN
621310	Offices of Chiropractors US	711321	Performing Arts Promoters (Presenters) without Facilities CAN
621320	Offices of Optometrists	711322	Festivals without Facilities CAN
621330	Offices of Mental Health Practitioners (except Physicians) US	711329	Sports Presenters and Other Presenters without Facilities CAN
621340	Offices of Physical, Occupational, and Speech Therapists and Audiologists US	711410	Agents and Managers for Artists, Athletes, Entertainers and Other Public Figures
621390	Offices of All Other Health Practitioners CAN	711511	Independent Artists, Visual Arts CAN
621410	Family Planning Centres US	711512	Independent Actors, Comedians and Performers CAN
621420	Out-Patient Mental Health and Substance Abuse Centres US	711513	Independent Writers and Authors CAN
621494	Community Health Centres CAN	<b>712</b>	<b>Heritage Institutions</b>
621499	All Other Out-Patient Care Centres CAN	712111	Non-Commercial Art Museums and Galleries CAN
621510	Medical and Diagnostic Laboratories CAN	712115	History and Science Museums CAN
621610	Home Health Care Services	712119	Other Museums CAN
621911	Ambulance (except Air Ambulance) Services CAN	712120	Historic and Heritage Sites
621912	Air Ambulance Services CAN	712130	Zoos and Botanical Gardens US
621990	All Other Ambulatory Health Care Services CAN	712190	Nature Parks and Other Similar Institutions
<b>622</b>	<b>Hospitals</b>	<b>713</b>	<b>Amusement, Gambling and Recreation Industries</b>
622111	General (except Paediatric) Hospitals CAN	713110	Amusement and Theme Parks US
622112	Paediatric Hospitals CAN	713120	Amusement Arcades
622210	Psychiatric and Substance Abuse Hospitals US	713210	Casinos (except Casino Hotels)
622310	Specialty (except Psychiatric and Substance Abuse) Hospitals US	713291	Lotteries MEX
<b>623</b>	<b>Nursing and Residential Care Facilities</b>	713299	All Other Gambling Industries MEX
623110	Nursing Care Facilities US	713910	Golf Courses and Country Clubs
623210	Residential Developmental Handicap Facilities US	713920	Skiing Facilities
623221	Residential Substance Abuse Facilities CAN	713930	Marinas
623222	Homes for the Psychiatrically Disabled CAN	713940	Fitness and Recreational Sports Centres US
623310	Community Care Facilities for the Elderly CAN	713950	Bowling Centres
623991	Transition Homes for Women CAN	713990	All Other Amusement and Recreation Industries US
623992	Homes for Emotionally Disturbed Children CAN	<b>72</b>	<b>Accommodation and Food Services</b>
623993	Homes for the Physically Handicapped or Disabled CAN	<b>721</b>	<b>Accommodation Services</b>
623999	All Other Residential Care Facilities CAN	721111	Hotels CAN
<b>624</b>	<b>Social Assistance</b>	721112	Motor Hotels CAN
624110	Child and Youth Services US	721113	Resorts CAN
624120	Services for the Elderly and Persons with Disabilities US	721114	Motels CAN
624190	Other Individual and Family Services US	721120	Casino Hotels
624210	Community Food Services US	721191	Bed and Breakfast US
624220	Community Housing Services CAN	721192	Housekeeping Cottages and Cabins CAN
624230	Emergency and Other Relief Services US	721198	All Other Traveller Accommodation CAN
624310	Vocational Rehabilitation Services US	721211	RV (Recreational Vehicle) Parks and Campgrounds US
624410	Child Day-Care Services US	721212	Hunting and Fishing Camps CAN
<b>71</b>	<b>Arts, Entertainment and Recreation</b>	721213	Recreational (except Hunting and Fishing) and Vacation Camps CAN
<b>711</b>	<b>Performing Arts, Spectator Sports and Related Industries</b>	721310	Rooming and Boarding Houses US
711111	Theatre (except Musical) Companies CAN	<b>722</b>	<b>Food Services and Drinking Places</b>
711112	Musical Theatre and Opera Companies CAN	722110	Full-Service Restaurants US
711120	Dance Companies US	722210	Limited-Service Eating Places CAN
711130	Musical Groups and Artists US	722310	Food Service Contractors
711190	Other Performing Arts Companies US	722320	Caterers
		722330	Mobile Food Services
		722410	Drinking Places (Alcoholic Beverages) US

# North American Industry Classification System (NAICS) - 2007

Sector	Sector
<b>81 Other Services (except Public Administration)</b>	<b>91 Public Administration</b>
<b>811 Repair and Maintenance</b>	<b>911 Federal Government Public Administration CAN</b>
811111 General Automotive Repair US	911110 Defence Services CAN
811112 Automotive Exhaust System Repair US	911210 Federal Courts of Law CAN
811119 Other Automotive Mechanical and Electrical Repair and Maintenance CAN	911220 Federal Correctional Services CAN
811121 Automotive Body, Paint and Interior Repair and Maintenance US	911230 Federal Police Services CAN
811122 Automotive Glass Replacement Shops US	911240 Federal Regulatory Services CAN
811192 Car Washes US	911290 Other Federal Protective Services CAN
811199 All Other Automotive Repair and Maintenance CAN	911310 Federal Labour and Employment Services CAN
811210 Electronic and Precision Equipment Repair and Maintenance CAN	911320 Immigration Services CAN
811310 Commercial and Industrial Machinery and Equipment (except Automotive and Electronic) Repair and Maintenance US	911390 Other Federal Labour, Employment and Immigration Services CAN
811411 Home and Garden Equipment Repair and Maintenance US	911410 Foreign Affairs CAN
811412 Appliance Repair and Maintenance US	911420 International Assistance CAN
811420 Reupholstery and Furniture Repair	911910 Other Federal Government Public Administration CAN
811430 Footwear and Leather Goods Repair	<b>Provincial and Territorial Public Administration CAN</b>
811490 Other Personal and Household Goods Repair and Maintenance US	<b>912</b>
<b>812 Personal and Laundry Services</b>	912110 Provincial Courts of Law CAN
812114 Barber Shops CAN	912120 Provincial Correctional Services CAN
812115 Beauty Salons CAN	912130 Provincial Police Services CAN
812116 Unisex Hair Salons CAN	912140 Provincial Fire-Fighting Services CAN
812190 Other Personal Care Services CAN	912150 Provincial Regulatory Services CAN
812210 Funeral Homes US	912190 Other Provincial Protective Services CAN
812220 Cemeteries and Crematoria US	912210 Provincial Labour and Employment Services CAN
812310 Coin-Operated Laundries and Dry Cleaners US	912910 Other Provincial and Territorial Public Administration CAN
812320 Dry Cleaning and Laundry Services (except Coin-Operated) US	<b>913 Local, Municipal and Regional Public Administration CAN</b>
812330 Linen and Uniform Supply CAN	913110 Municipal Courts of Law CAN
812910 Pet Care (except Veterinary) Services US	913120 Municipal Correctional Services CAN
812921 Photo Finishing Laboratories (except One-Hour) US	913130 Municipal Police Services CAN
812922 One-Hour Photo Finishing US	913140 Municipal Fire-Fighting Services CAN
812930 Parking Lots and Garages US	913150 Municipal Regulatory Services CAN
812990 All Other Personal Services US	913190 Other Municipal Protective Services CAN
<b>813 Religious, Grant-Making, Civic, and Professional and Similar Organizations</b>	913910 Other Local, Municipal and Regional Public Administration CAN
813110 Religious Organizations US	<b>914 Aboriginal Public Administration CAN</b>
813210 Grant-Making and Giving Services CAN	914110 Aboriginal Public Administration CAN
813310 Social Advocacy Organizations CAN	<b>919 International and Other Extra-Territorial Public Administration CAN</b>
813410 Civic and Social Organizations US	919110 International and Other Extra-Territorial Public Administration CAN
813910 Business Associations US	
813920 Professional Organizations US	
813930 Labour Organizations US	
813940 Political Organizations US	
813990 Other Membership Organizations US	
<b>814 Private Households</b>	
814110 Private Households	

## **Instructions on Completing a Paper Form of a Manifest**

### **[Appendix C](#)**

## **Instructions on Completing a Paper Form of a Manifest**



## **Instructions on Completing a Paper Form of a Manifest**

Official Ontario manifests are supplied by the carrier at the time of the waste's transfer. Please see page C-9 in Appendix C for a sample of an Ontario Manifest /Movement Document. Generators, carriers and receivers must follow the steps below when completing the paper manifest.

### **Part A. Generator**

1. Box 1: Identify the company name, the Ontario generator registration number, business (mailing) address, the telephone number for the generator and the address from which the waste is being shipped.
2. Box 2: Identify the company name, receiver number (Ontario C of A number or number issued by local jurisdiction if outside of Ontario), business (mailing) address, email address and telephone number for the intended receiver and the address of the site that is intended to receive the waste.
3. Box 3: Identify the provincial waste code for each waste (i.e., the waste number which consists of the three-digit number (Ontario waste class) plus a single letter (waste characterization), e.g., 263A).
4. Box 8: Identify the quantity of waste being shipped and the units of measurement (in kg or litres) of each waste listed.
5. Box 10: Identify the physical state of each waste listed (i.e., solid, liquid or gas).
6. Box 20: Print the generator's name and telephone number, and sign the form to certify that the information provided in Part A is correct and complete.

### **Part B. Carrier**

1. Box 23: Identify the company name, carrier number (Ontario C of A number), business (mailing) address, and the carrier's telephone number.
2. Box 24: If necessary, identify vehicle trailer license number and province or territory of registration for each trailer or car being used to transport the waste. Please include both the vehicle and the trailer license numbers
3. Box 26: The carrier's authorized representative must print his/her name and telephone number and sign the form to certify that the wastes described in Part A have been received for delivery to the intended receiver.

### **Part C. Receiver**

1. Box 28: Identify the company name, the receiver number (Ontario C of A number or number issued by local jurisdiction if outside of Ontario), business (mailing) address, and telephone number of the receiver and the address of the site receiving the waste, if it is different from the address identified in box 2 of Part A.
2. Box 29: Identify the date and time that the shipment of waste is received at the receiving site.
3. Box 31: Identify the quantity of each waste received and the units of measurement (in kg or litres).

### **Instructions on Completing a Paper Form of a Manifest**

4. Box 32: For domestic shipments, if the quantity of wastes received is significantly different than the recorded quantity being shipped that was noted by the generator, the receiver may provide a comment to explain the difference.
5. Box 33: Enter the handling code for each waste to identify the waste management activities used by the receiver of the manifest. Choose one of the following handling codes for each waste listed on the manifest:
  - 01 storage
  - 02 thermal treatment
  - 03 chemical treatment
  - 04 physical treatment
  - 05 biological treatment
  - 06 secure landfill
  - 07 recycling
  - 08 solidification
  - 09 other [please specify].

If a waste will be handled by a series of methods at a receiving facility, the final method of handling at the receiver's location should be entered in Box 33. For example, at a facility where the waste is first stored or processed before secure landfilling, the 06 code for secure landfill should be used. For waste that is shipped to a transfer station where no processing will occur, the most appropriate handling code is the 01 code for storage. Please note that the handling code is not the code for any treatment or disposal that may occur at a facility to which the waste is transferred on a subsequent manifest.

6. Box 34: For each waste listed, please indicate whether or not the shipment was accepted or refused.
7. Box 37: The receiver's authorized representative must print his/her name and telephone number and sign the form to certify that the information provided in Part C is correct and complete.

### **Distribution of the Paper Form of a Manifest**

Regulation 347 requires the following distribution of the six copies of the manifest (please see Figure C-1):

1. Copies 1 and 3 are to be sent to the Ministry of the Environment.
2. Copy 2 is to be retained by the generator.
3. Copies 4 and 5 are to be retained by the carrier and receiver respectively.
4. Copy 6 is to be sent to the generator by the receiver of the waste.

This process is explained in more detail below, to help clarify the responsibilities of the generator, carrier and receiver with respect to manifesting hazardous waste shipments within Ontario, from other jurisdictions into Ontario, and from Ontario to other jurisdictions.

#### **(i) Shipments within Ontario**

The responsibilities of the generator, carrier, and receiver with respect to the distribution of the manifest copies and provision of the appropriate copies to the Ministry of the Environment can be summarized as follows:

### **Instructions on Completing a Paper Form of a Manifest**

1. The generator, carrier and receiver must ensure that their respective sections are completed: Part A by the generator, Part B by the carrier and Part C by the receiver.
2. The generator detaches copy 1 and sends that copy to the Ministry of the Environment, at the address provided on the back of the manifest.
3. The generator retains copy 2.
4. The carrier carries the remaining four copies (copies 3, 4, 5, 6) along with the shipment.
5. Upon delivering the shipment to the receiver, the carrier provides all four remaining copies to the receiver's authorized representative.
6. The receiver completes Part C, and sends copy 3 to the Ministry of the Environment at the address provided on the back of the manifest. The receiver also distributes copies 4 and 6 to the carrier and generator respectively, and retains copy 5.
7. If more than one carrier is used for waste shipments within Ontario, a new manifest must be completed for each carrier involved in any transport of waste, unless the Ministry has provided other directions.

#### **(ii) Shipments into Ontario from other jurisdictions**

1. The generator, carrier and receiver must ensure that their respective sections are completed: Part A by the generator, Part B by the carrier and Part C by the receiver.
2. The generator detaches copy 1 and gives it to the carrier.
3. The generator retains copy 2.
4. The carrier ensures that copy 1 (or an exact copy of copy 1) is returned to the Ontario Ministry of the Environment (an exact copy should only be sent if the original is destined for another jurisdiction).
5. The carrier carries the remaining four copies (copies 3, 4, 5, 6) along with the shipment.
6. Upon delivering the shipment to the receiver, the carrier gives all four remaining copies to the receiver's authorized representative.
7. The receiver completes Part C and sends copy 3 (or an exact copy of copy 3) to the Ministry of the Environment at the address provided on the back of the manifest (an exact copy should only be sent if the original is destined for another jurisdiction). The receiver also distributes copies 4 and 6 to the carrier and generator, and keeps copy 5.

#### **(iii) Shipments from Ontario into other jurisdictions**

1. The generator, carrier and receiver must ensure that their respective sections are completed: Part A by the generator, Part B by the carrier and Part C by the receiver.

### Instructions on Completing a Paper Form of a Manifest

2. The generator detaches copy 1 and sends copy 1 (or an exact copy of copy 1) to the Ontario Ministry of the Environment (an exact copy should be sent only if the original is destined for another jurisdiction).
3. The generator retains copy 2.
4. The carrier carries the remaining four copies (copies 3, 4, 5, 6) along with the shipment.
5. Upon delivering the shipment to the receiver, the carrier gives all four remaining copies to the receiver's authorized representative.
6. The receiver completes Part C, distributes copies 3 and 4 to the carrier, sends copy 6 to the generator, and retains copy 5.
7. The carrier ensures that copy 3 (or an exact copy of copy 3) is returned to the Ministry of the Environment at the address provided on the back of the manifest (an exact copy should be sent only if the original is destined for another jurisdiction).

For shipments of waste either to or from other jurisdictions, the carrier is responsible for ensuring that the appropriate copy is sent to the Ministry of the Environment.

For waste from other jurisdictions that is coming into Ontario, send copy 1 (White)  
For waste from Ontario being shipped into other jurisdictions, send copy 3 (Yellow)

### Shipments of Exempt Waste – International and Inter-provincial Movements

In special situations, some hazardous wastes may be exempt from generator registration and manifesting requirements in Ontario (please see section 3.2 of this manual). Manifesting may be required under another regulation, however, if these wastes are being shipped internationally or inter-provincially. The most common situation where this arises in Ontario involves waste that meets the requirements of sub-paragraph i of paragraph 1 of sub-section (2) of Section 3 of Regulation 347, where:

1. The shipments must be **direct** between Ontario generators and the out-of-province receiver.
2. The waste must be wholly used at the receiving facility in an ongoing agricultural, commercial, manufacturing or industrial process, or an operation used principally for functions other than waste management, and the process or operation does not involve combustion or land application of the waste.
3. While transporting the material, the carrier must have in his or her possession a document from the owner or operator of the site to which the material is being transported in which the owner or

### **Instructions on Completing a Paper Form of a Manifest**

operator agrees to accept the material, specifies what use will be made of it, and stipulates that the process or operation is ongoing at the time the material is being transported.

For the international and inter-provincial movement of such hazardous waste, direct shipments of waste from Ontario generators to out-of-province receivers are exempt from Part V of the *Environmental Protection Act* and Regulation 347, provided that the above requirements are met. The Ministry of the Environment therefore does not require either waste manifesting or generator registration for such direct shipments.

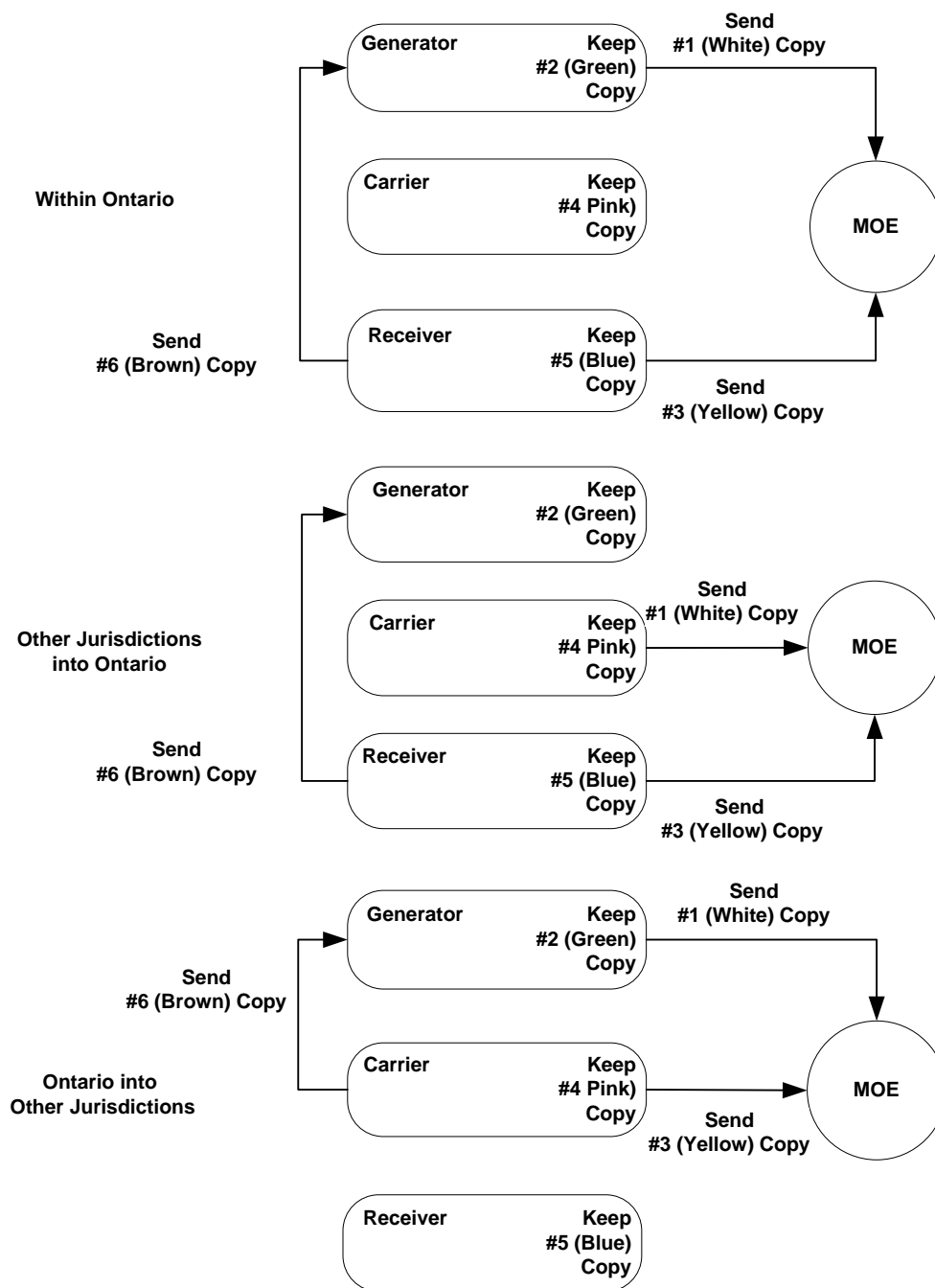
For shipments of wastes that do not require manifesting in Ontario, the Ontario generator is responsible for complying with the regulatory and legislative requirements of other applicable jurisdictions. These responsibilities may include compliance with requirements under the federal government's Export and Import of Hazardous Waste and Hazardous Recyclable Material regulations, under the *Canadian Environmental Protection Act*, or the requirements under the federal government's *Transportation of Dangerous Goods Act* and its regulations.

Should these or any other applicable regulations (i.e., in the receiving jurisdiction) require the use of a waste manifest, the Ministry suggests that the generator obtain the necessary manifests from the regulatory agency that requires them. If any of these other regulations require that a copy of the manifest be sent to the Ontario Ministry of the Environment, the generator must fill in the Ontario Generator Registration Number section on the form with "Exempt" and must also indicate in the Provincial Code section (i.e., Ontario Waste Class) that the waste is "Exempt."

Generators are discouraged from using the Ontario manifest to ship non-subject waste. Using a manifest obtained from the Ontario Ministry of the Environment requires that copies be returned to the Ministry, and this may trigger the \$5 per manifest component of the generator registration fee.

## Instructions on Completing a Paper Form of a Manifest

**Figure C-1 Distribution of Paper Manifest Forms**



**Note:** The white and yellow copies are to be sent to the Ministry. The green, pink and blue copies are kept by the Generator, Carrier and Receiver respectively. The brown copy is sent to the Generator. If the white and yellow copies are required by another jurisdiction, photocopies are acceptable for submission to the MOE. It is the responsibility of the carrier to ensure that the generator copy of the manifest is sent to the MOE for shipments from other jurisdictions into Ontario, and the receiver copy is sent to the MOE for shipments from Ontario into other jurisdictions.

## **Instructions on Completing a Manifest On-line**

### **[Appendix C](#)**

## **Instructions on Completing a Manifest On-line**

## **Instructions on Completing a Manifest On-line**

Electronic manifests must be completed through the Hazardous Waste Information Network (HWIN) at <https://www.hwin.ca/hwin/index.jsp>. When using an electronic manifest, the generator is required to give the carrier electronic access to the manifest to permit the carrier to complete Part B (Carrier) of the manifest. The generator must ensure that Part A of the manifest is completed. When using the electronic manifest, it is not necessary to retain paper copies of the submission. If the carrier requires a paper copy, the generator should print a paper copy of the electronically submitted manifest and provide it to the carrier.

More information is available online through the HWIN website, including answers to frequent questions about electronic manifests.



## **Sample Manifest/Movement Document**

### **[Appendix C](#)**

## **Sample Manifest/Movement Document**

Copies of the Paper Manifest may be obtained by the carrier from the Environmental Monitoring and Reporting Branch of the Ministry of the Environment

# Sample Manifest/Movement Document

## MOVEMENT DOCUMENT / MANIFEST DOCUMENT DE MOUVEMENT / MANIFESTE

This Movement document/manifest conforms to all federal and provincial transport and environmental legislation.  
Ce document de mouvement/manifeste est conforme aux législations fédérale et provinciale sur l'environnement et le transport.

### APPROPRIATE AUTHORITIES / AUTORITÉS RESPONSABLES \*EMERGENCY NUMBER / \*NUMÉRO D'URGENCE

Movement Document / Manifest Reference No.  
N° de référence du document de mouvement/manifeste

<b>A Generator / consignoir</b> <b>Producteur / expéditeur</b>		<b>B Carrier</b> <b>Transporteur</b>		<b>C Receiver / consignee</b> <b>Réceptionnaire / destinataire</b>	
Registration No. / Provincial ID No. N° d'immatriculation - d'id. provincial		Registration No. / Provincial ID No. N° d'immatriculation - d'id. provincial		Registration No. / Provincial ID No. N° d'immatriculation - d'id. provincial	
Company name / Nom de l'entreprise		Company name / Nom de l'entreprise		Receiver / consignee information same as in Part A Les renseignements du réceptionnaire / destinataire est la même qu'à la A <input type="checkbox"/> Yes / Oui <input type="checkbox"/> No, complete the box below / Non, remplir la case ci-dessous	
Mailing address / Adresse postale    City / Ville    Province    Postal code / Code postal		Mailing address / Adresse postale    City / Ville    Province    Postal code / Code postal		Company name / Nom de l'entreprise	
E-mail / Courrier électronique    Tel. No. / N° de tél. (    )		E-mail / Courrier électronique    Tel. No. / N° de tél. (    )		Mailing address / Adresse postale	
Shipping site address / Adresse de lieu de l'expédition		<b>Vehicle / Véhicule</b> Trailer - Rail car No. 1 1 <sup>re</sup> remorque - wagon		City / Ville    Province    Postal code / Code postal	
City / Ville    Province    Postal code / Code postal		Trailer - Rail car No. 2 2 <sup>e</sup> remorque - wagon		E-mail / Courrier électronique    Tel. No. / N° de tél. (    )	
<b>Intended Receiver / consignee</b> <b>Réceptionnaire / destinataire prévu</b>		Port of entry Point d'entrée    International use only		Port of exit Point de sortie    International use only	
		<b>Carrier Certification</b> : I certify that I have received waste or recyclable material from the generator / consignoir for delivery to the receiver / consignee as set out in Part A and that the information contained in Part B is complete and correct. <b>Attestation du transporteur</b> : J'atteste avoir reçu les déchets ou matières recyclables du producteur / expéditeur en vue de leur livraison au réceptionnaire / destinataire, tels qu'ils figurent à la partie A et que les renseignements inscrits à la partie B sont exacts et complets.			
		Name of authorized person (print):    Tel. No. / N° de tél. (    ) Nom de l'agent autorisé (caractères d'imprimerie) :    (    )			
		Year / Année    Month / Mois    Day / Jour    Signature :			
Mailing address / Adresse postale    City / Ville    Province    Postal code / Code postal		E-mail / Courrier électronique    Tel. No. / N° de tél. (    )		Receiving site address / Adresse de lieu de destination	
City / Ville    Province    Postal code / Code postal		Date received / Date de réception Year / Année    Month / Mois    Day / Jour    Time / Heure <input type="checkbox"/> A.M. <input type="checkbox"/> P.M.		If waste or recyclable material to be transferred, specify intended company name/ Si les déchets ou matières recyclables doivent être transférés, préciser le nom du destinataire	
Prov. code Code prov.		Shipping name Appellation réglementaire		Registration No./Provincial ID No. N° d'immatriculation/d'id provincial	
Class / Classe Sub. class(es) Classe(s) sub.		UN No. N° NU		Quantity shipped Quantité expédiée	
Packing / risk gr. Gr. d'emballage/ de risque		Units L or / ou Kg Unités		Packaging/Contenant No. / N°    Codes Int - ext.	
Phys. state État phys.		Quantity received Quantité reçue		Comments Commentaires	
Handling Code / Code de manutention		Shipment / Envoi Accepted Refused		Decont. Cont.    Veh.	
Notice No. N° de notification		Notice Line No N° de ligne de la notification		If handling code "Other" (specify) Si code de manutention « autre » (spécifier)	
Shipment Envoi		Of / De		Receiver / consignee certification : I certify that the information contained in Part C is correct and complete. / <b>Attestation du réceptionnaire / destinataire</b> : J'atteste que tous les renseignements à la partie C sont exacts et complets.	
D or R code Code É ou R		C code Code C		Name of authorized person (print) Nom de l'agent autorisé (caractère d'imprimerie)	
Basel Annex VIII or OECD Code Annexe VIII de Bâle ou Code OCDE		H code Code H		Signature	
Y code Code Y		National code in country of / Code du pays		Tel. No. / N° de tél. (    )	
Export Exportation		Import Importation		Customs code(s) Code(s) de douanes	
(i)		(ii)		(iii)	
(iv)		(v)		(vi)	
Generator / consignoir certification: I certify that the information contained in Part A is correct and complete. <b>Attestation du producteur / expéditeur</b> : J'atteste que tous les renseignements à la partie A sont exacts et complets.		Name of authorized person (print) Nom de l'agent autorisé (caractère d'imprimerie)		Signature	
Date shipped / Date d'expédition Year / Année    Month / Mois    Day / Jour    Time / Heure <input type="checkbox"/> A.M. <input type="checkbox"/> P.M.		Scheduled arrival date / Date d'arrivée prévue Year / Année    Month / Mois    Day / Jour		Special handling / Manutention spéciale <input type="checkbox"/> Attached /Ci-joint: <input type="checkbox"/> As follows/ Ci-contre :	

Sample Manifest/Movement Document

<p><b>International Shipments/ Expéditions internationales</b></p> <p>Transboundary Movement Branch Environment Canada Place Montcalm, 6<sup>e</sup> Floor 70 Crémazie Street GATINEAU QC K1A 0H3 (819) 997-3377</p> <p>Direction des mouvements transfrontières Environnement Canada Place Montcalm, 6<sup>e</sup> étage 70, rue Crémazie GATINEAU (Québec) K1A 0H3 (819) 997-3377</p> <p><b>Provincial Authorities / Autorités provinciales</b></p> <p><b>Alberta</b> <b>*1-800-222-8514</b> Alberta Environment Environmental Policy Branch 4th Floor, Oxbridge Place 9820 - 106 Street Edmonton, AB T5K 2J6 (780) 427-0666 / (780) 427-0637</p> <p><b>British Columbia</b> <b>*1-800-683-3458</b> Colombie-Britannique Ministry of Water Land &amp; Air Protection Environmental Management Branch Public Safety &amp; Prevention Initiative P.O. Box 9342, Stn Prov Govt Victoria BC V8W 9M1 (250) 387-2049</p> <p><b>Manitoba</b> <b>*204-945-2100</b> Manitoba Conservation Headquarters Operations Box 46, 200 Saulteaux Cres Winnipeg MB R3J 3W3</p> <p><b>Newfoundland and Labrador</b> <b>*709-729-6483</b> Terre-Neuve et Labrador Department of Environment Pollution Prevention Division Confederation Building, West Block P.O. Box 8700 St. John's NF A1B 4J6 (709) 729-2556 fax (709) 729-6969</p> <p><b>New Brunswick</b> <b>*1-800-565-1633</b> Nouveau-Brunswick Department of the Environment and Local Government Approvals Branch P.O. Box 6000 Fredericton NB E3B 5H1 (506) 444-4599</p> <p><b>Northwest Territories</b> <b>Territoires du Nord-Ouest</b> *867-920-8130 Environmental Protection Division Department of Environment and Natural Resources P.O. Box 1320 Yellowknife NT X1A 2L9 (867) 873-7654</p> <p><b>Nova Scotia</b> <b>*1-800-565-1633</b> Nouvelle-Ecosse Nova Scotia Department of Environment and Labour 5151 Terminal Road, 5th Floor PO Box 697 Halifax, NS B3J 2T8 (902) 424-5300</p> <p><b>Ontario</b> <b>*1-800-268-6060</b> Ministry of the Environment Environmental Monitoring &amp; Reporting Branch "Area M" 135 St. Clair Avenue West Toronto ON M4V 1P5 (416) 235-6259</p> <p><b>Prince Edward Island</b> <b>*1-800-565-1633</b> Île-du-Prince-Édouard Department of Environment, Energy and Forestry P.O. Box 2000 Charlottetown PEI C1A 7N8 (902) 368-5000</p> <p><b>Québec</b> <b>*1-866-694-5454</b> Ministère du Développement durable, de l'Environnement et des Parcs Urgence environnement 5199 Sherbrooke est, Bureau 3860 Montréal QC H1T 3X9</p> <p><b>Saskatchewan</b> <b>*1-800-667-7525</b> Environmental Protection Branch Saskatchewan Environment and Resource Management 3211 Albert Street Regina SK S4S 5W6 (306) 787-0016</p> <p><b>Yukon Environment</b> <b>*867-667-7244</b> Environment Yukon Environmental Programs Branch (V-8) Box 2703 Whitehorse, YT Y1A 2C6 867-667-5683</p> <p><b>Nunavut</b> <b>867-920-8130</b> Environmental Protection Division Department of Environment P.O. Box 1000, Stn. 1360 Iqaluit, Nunavut, X0A 0H0 (867) 975-5900</p>	<p>Each Party shall ensure that the information on all copies is legible and indelibly printed.</p> <p>Generator / consignator completes Part A and has the carrier complete Part B.</p> <p>Generator / consignator detaches Copy 1 and sends Copy 1 or a copy of Copy 1 to the appropriate authority of the province or territory of origin and of the province or territory of destination, and Environment Canada for international shipments.</p> <p>Generator / consignator retains Copy 2.</p> <p>Carrier carries the remaining four copies (Copies 3, 4, 5, 6) along with the shipment.</p> <p>Upon delivery of the shipment to the receiver / consignee, the carrier gives the four copies to the receiver / consignee's authorized representative.</p> <p>Receiver / consignee completes Part C and sends Copy 3 or a copy of Copy 3 to the appropriate authority of the province or territory of origin and of the province or territory of destination and Environment Canada for international shipments. He also distributes Copies 4 and 6 to the carrier and generator / consignee, and keeps Copy 5.</p> <p>If more than four hazardous wastes from the same generator / consignator are to be shipped to the same intended receiver / consignee in the same shipment, additional movement documents / manifests are to be completed. The first movement document / manifest reference number must be indicated on the additional movement document / manifest form(s) by the person completing the additional form(s).</p> <p>If more than one carrier is utilized additional movement documents / manifests may need to be completed. Check with appropriate jurisdictions to determine if additional movement documents / manifest are required.</p> <p>All domestic shipments must comply with applicable provincial/territorial legislation and regulations.</p> <p>International shipments must comply with the Export and Import of Hazardous Waste and Hazardous Recyclable Material Regulations.</p>	<p><b>Les parties doivent s'assurer que les renseignements contenus sur toutes les copies soient lisibles et imprimée de façon indélébile.</b></p> <p>Le producteur ou l'expéditeur remplit la partie A et fait remplir la partie B par le transporteur.</p> <p>Le producteur ou l'expéditeur détache la copie 1 et envoie la copie 1, ou une copie de celle-ci, à 1) l'autorité responsable de la province ou du territoire d'origine, 2) l'autorité responsable de la province ou du territoire de destination, et 3) Environnement Canada pour les envois internationaux.</p> <p>Le producteur ou l'expéditeur conserve la copie 2.</p> <p>Le transporteur conserve les quatre autres copies (Copies 3, 4, 5, 6) et les transporte avec l'envoi</p> <p>Sur livraison de l'envoi au réceptionnaire ou destinataire, le transporteur remet les quatre copies au représentant autorisé du réceptionnaire ou destinataire.</p> <p>Le réceptionnaire ou le destinataire remplit la partie C et envoie la copie 3, ou une copie de celle-ci, à 1) l'autorité responsable de la province ou du territoire d'origine, 2) l'autorité responsable de la province ou du territoire de destination et 3) Environnement Canada pour les envois internationaux. Il distribue également les copies 4 et 6 au transporteur ainsi qu'au producteur ou à l'expéditeur, et conserve la copie 5.</p> <p>Lorsque plus de quatre déchets dangereux du même producteur ou expéditeur sont envoyés au même réceptionnaire ou destinataire visé dans le même envoi, il y a lieu de remplir des documents de mouvement/manifestes supplémentaires. La personne qui remplit les formulaires supplémentaires doit indiquer le numéro de référence du premier document de mouvement/manifeste.</p> <p>Lorsque plus d'un transporteur est utilisé, il est possible de devoir remplir des documents de mouvement/manifestes supplémentaires. Vérifiez auprès des juridictions appropriées si vous devez remplir des documents de mouvements/manifestes additionnels.</p>
<p><b>INSTRUCTIONS FOR COMPLETING EACH PART ON THE MOVEMENT DOCUMENT or MANIFEST</b></p> <p><b>Part A.</b> Box 1: <b>Identify</b> company name, registration no. / provincial ID no., mailing address, email address, telephone number and shipping site address. Box 2: <b>Identify</b> intended receiver / consignee's company name, registration no. / provincial ID no., mailing address, email address, telephone number and receiving site address. Box 3: <b>Identify</b> provincial code, if applicable. Boxes 4, 5, 6 and 7: <b>List</b> in accordance with TDGR, the proper shipping name or description, the primary class and subsidiary class or classes, the UN number and the packing group code (I great danger; II medium danger; III minor danger) or the risk group. Box 8: <b>Identify</b> the quantity shipped and units in kg or L. Box 9: <b>Identify</b> the number and type of packaging (Int. Ext. Code) (<b>01</b> drum; <b>02</b> tank; <b>03</b> bulk; <b>04</b> carton; <b>05</b> bag; <b>06</b> roll off or lugger; <b>07</b> other). Box 10: <b>Identify</b> the physical state. For international shipments, identify the LSPG Code. Boxes 10 and 11 to 19: For international codes, please refer to User Guide to Implementation, www.ec.gc.ca/tmb/eng/guides_e.html . Box 21: <b>Identify</b> time and date shipped and the scheduled arrival date. Box 22: <b>Identify</b> special handling and emergency instructions. Box 20: The generator / consignator's authorized representative shall print his/her name and telephone number, and sign the form certifying that the information given in Part A is correct and complete.</p> <p><b>Part B.</b> Box 23: Identify company name, registration no. / provincial ID no., mailing address, email address and the telephone number. Box 24: Identify vehicle trailer license number and province or territory of registration. Box 25: Identify port of entry into or exit out of Canada. Box 26: The carrier's authorized representative shall print his/her name and telephone number and sign the form certifying that the hazardous wastes or hazardous recyclable materials have been received from the generator/consignor for delivery to the intended receiver / consignee and the information given in Part B is complete and correct.</p> <p><b>Part C.</b> Box 28: Identify company name, registration no. / provincial ID no., business address, email address, telephone number and receiving site address. Box 29: Identify date and time shipment received. Box 30: If transferred to another receiver / consignee, identify company name and provincial ID no. Box 31: Identify the quantity received and the units in kg or L. Box 32: Identify any shipment discrepancy problems. Boxes 33 and 36: Identify the final handling method (01 storage, 02 thermal treatment, 03 chemical treatment, 04 physical treatment, 05 biological treatment, 06 secure landfill, 07 recycling, 08 solidification, 09 other (specify)) Box 34: Indicate whether or not the shipment was accepted or refused. Box 35: Identify whether decontamination of packaging or the vehicle has been carried out by checking the appropriate box. Box 37: The receiver / consignee's authorized representative shall print his/her name and telephone number and sign the form certifying that the information given in Part C is correct and complete.</p>	<p><b>DIRECTIVES POUR REMPLIR CHAQUE PARTIE DU DOCUMENT DE MOUVEMENT ou DU MANIFESTE</b></p> <p><b>Partie A.</b> Encadré 1 : <b>Indiquez</b> le nom de la compagnie, le n° d'immatriculation/d'id provincial, l'adresse postale, le courrier électronique, le numéro de téléphone et l'adresse du lieu de l'expédition. Encadré 2 : <b>Indiquez</b> le nom de compagnie du réceptionnaire ou destinataire visé, le n° d'immatriculation/d'id provincial, l'adresse postale, le courrier électronique, le numéro de téléphone et le lieu de destination. Encadré 3 : <b>Indiquez</b> le code provincial, s'il y a lieu. Encadrés 4, 5, 6 et 7: <b>Indiquez</b>, conformément au RTMD, le nom et la description exacts de l'envoi, la classe primaire et la classe ou les classes subsidiaires, le numéro de l'UN et le code du groupe d'emballage (I un niveau de danger élevé; II un niveau de danger moyen; III un niveau de danger faible) ou du groupe de risques. Encadré 8 : <b>Indiquez</b> la quantité envoyée et les unités en kg ou en L. Encadré 9 : <b>Indiquez</b> le numéro et le type d'emballage (Code int.-ext.) (<b>01</b> baril; <b>02</b> citerne; <b>03</b> vrac; <b>04</b> caisse de carton; <b>05</b> sac; <b>06</b> conteneur sur châssis ou godet; <b>07</b> autre). Encadré 10 : <b>Indiquez</b> l'état physique. Pour les envois internationaux, indiquez le Code LSPG. Encadré 10 et 11 à 19 : Pour les codes internationaux, veuillez vous reporter au Guide de l'application, www.ec.gc.ca/tmb/fr/guides_f.html Encadré 21 : <b>Indiquez</b> l'heure et la date de l'envoi et la date prévue d'arrivée. Encadré 22 : <b>Indiquez</b> s'il y a manutention spéciale et les directives en cas d'urgence. Encadré 20 : Le représentant autorisé doit écrire son nom en lettres moulées et son numéro de téléphone et signer le formulaire attestant que les renseignements contenus dans la partie A sont exacts et complets.</p> <p><b>Partie B.</b> Encadré 23 : <b>Indiquez</b> le nom de la compagnie, le n° d'immatriculation/d'id provincial, l'adresse postale, le courrier électronique et le numéro de téléphone. Encadré 24 : <b>Indiquez</b> le numéro d'immatriculation de la remorque du véhicule et de la province ou du territoire d'enregistrement. Encadré 25 : <b>Indiquez</b> le point d'entrée au Canada et de sortie du Canada. Encadré 26 : Le représentant autorisé du transporteur doit écrire son nom en lettres moulées et son numéro de téléphone et signer le formulaire attestant d'avoir reçu les déchets dangereux ou les matières recyclables dangereuses du producteur ou expéditeur en vue de leur livraison au réceptionnaire ou au destinataire et que les renseignements contenus dans la Partie B sont exacts et complets.</p> <p><b>Partie C.</b> Encadré 28 : <b>Indiquez</b> le nom de la compagnie, le n° d'immatriculation/d'id provincial, l'adresse commerciale, le courrier électronique, le numéro de téléphone et l'adresse du lieu de destination. Encadré 29 : <b>Indiquez</b> la date et l'heure de réception de l'envoi. Encadré 30 : Lorsque l'envoi est transféré à un autre réceptionnaire ou destinataire, indiquez le nom de la compagnie et le n° d'immatriculation/d'id provincial. Encadré 31 : <b>Indiquez</b> la quantité reçue et les unités en kg ou L. Encadré 32 : <b>Indiquez</b> tout problème de divergence dans la livraison. Encadrés 33 et 36 : <b>Indiquez</b> la méthode finale de manutention (<b>01</b> entreposage, <b>02</b> traitement thermique, <b>03</b> traitement chimique <b>04</b> traitement physique, <b>05</b> traitement biologique, <b>06</b> lieu d'enfouissement sécuritaire, <b>07</b> recyclage, <b>08</b> solidification, <b>09</b> autre (spécifiez)) Encadré 34 : <b>Indiquez</b> si l'envoi a effectivement été accepté ou refusé. Encadré 35 : <b>Indiquez</b> si la décontamination de l'emballage ou du véhicule a été effectuée en cochant la case correspondante Encadré 37 : Le représentant autorisé du réceptionnaire ou destinataire doit écrire son nom en lettres moulées et son numéro de téléphone, et signer le formulaire attestant que les renseignements donnés dans la partie C sont exacts et complets.</p>	

## **Sample Load Refusal Report**

### **[Appendix C](#)**

## **Sample Load Refusal Report**

Copies of the Load Refusal Report may be obtained from the Environmental Monitoring and Reporting Branch or Regional/District Offices of the Ministry of the Environment

## Sample Load Refusal Report



Ministry  
of the  
Environment

Ministère  
de  
l'Environnement

### Load Refusal Report Déclaration de refus d'un chargement de déchets

Manifest number / N° du manifeste	Serial number / N° de série <b>LR 000876</b>
-----------------------------------	---

	Receiver / Réceptionnaire	Generator / Producteur
Certificate of Approval number N° du certificat d'autorisation		
Company name Nom de l'entreprise		
Address (number and street) Adresse (n° et rue)		
City Ville		
Province		
State État		
Postal Code Code postal		
Telephone number N° de téléphone		
Contact person Personne-ressource		

#### Waste Information / Renseignement sur les déchets

Carrier / Transporteur
Certificate of Approval number N° du certificat d'autorisation
Company name Nom de l'entreprise
Telephone number N° de téléphone
Contact person Personne-ressource
Licence number of truck/trailer N° d'immatriculation du camion / de la remorque
Driver's name Nom du conducteur

<input type="checkbox"/> Full load refusal / Refus du chargement au complet <input type="checkbox"/> Partial load refusal / Refus d'une partie du chargement	
Description of waste / Description des déchets	
Provincial waste class / Classification provinciale des déchets	Quantity refused / Quantité refusée
Reason(s) for refusal / Motifs du refus	
Destination of refused load / Destination des déchets refusés	
<input type="checkbox"/> Returned to Generator / Retournés au producteur Using same manifest number / Même n° de manifeste <input type="checkbox"/> Yes / Oui <input type="checkbox"/> No / Non	<input type="checkbox"/> Forwarded to Alternate Receiver / Expédiés à un autre réceptionnaire Using same manifest number / Même n° de manifeste <input type="checkbox"/> Yes / Oui <input type="checkbox"/> No / Non
If no, Manifest number / Si non, nouveau n° de manifeste <div style="border: 1px solid black; height: 20px; width: 150px;"></div>	If no, Manifest number / Si non, nouveau n° de manifeste <div style="border: 1px solid black; height: 20px; width: 150px;"></div>
Name of alternate receiver / Nom du nouveau réceptionnaire .....	
Certificate of Approval number / N° du certificat d'autorisation .....	
Contact person / Personne-ressource .....	

1205-075 (02/99)

**MAIL THIS COPY TO: MOE, 135 ST. CLAIR AVE WEST, AREA M. TORONTO, ONTARIO M4V 1P5**  
MOE, ENVIRONMENTAL MONITORING AND REPORTING BRANCH

## **Sample Certificate for Sealed Container**

### **Appendix D**

## **Sample Certificate for Sealed Container**

## Sample Certificate for Sealed Container

CERTIFICATE FOR SEALED CONTAINER (SUBSECTION 80, R.R.O. 1990, REGULATION 347)		
WASTE GENERATION FACILITY IDENTIFICATION (Note: Information is for site at which waste in this container is generated)		SECURITY SEAL No.
Generator Registration No.:		
Generator Name:		
Generator Address:		Street:
		City:
		Province:
Area Code & Telephone No.:		
DESCRIPTION OF CONTAINER CONTENTS		
Waste Name and/or Description of Waste:	MOE Waste Class:	Hazardous Waste N <sup>o</sup> : (See Regulation 347 Schedules)
CERTIFICATION STATEMENTS		
1. This container and its seal comply with requirements of the Ontario Ministry of the Environment's <i>Registration Guidance Manual for Generators of Liquid Industrial and Hazardous Waste</i> .		
2. The waste generation facility identified above produces a total of less than 100 kilograms of hazardous industrial waste, hazardous waste chemical and characteristic waste in any month.		
3. All the waste in this container was produced at the waste generation facility identified above.		
4. All the waste in this container is hazardous industrial waste, hazardous waste chemical and/or characteristic waste.		
5. No waste in this container has been mixed, blended, bulked or in any other way intermingled with any other waste or material.		
6. The total weight of this container and its contents does not exceed 250 kilograms.		
7. Pursuant to subsection 80 (1) of R.R.O. 1990, Regulation 347, Sections 75, 77 and 79 of R.R.O. 1990, Regulation 347, do not apply to the land disposal of this sealed container, as long as, i. the container does not appear to be broken or leaking, and ii. the seal does not appear to be broken or tampered with.		
I certify that the information provided on this certificate and the certification statements above are accurate and complete. I acknowledge that it is an offence under subsection 184 (3) of the <i>Environmental Protection Act</i> to include false or misleading information in any document or data required to be created, stored or submitted under the Act.		
Signature: _____		Title: _____
Name: _____ (Print Name)		Date: _____

**Minister's Requirement for Hazardous Waste Fees**  
(See Section 18 of Regulation 347, as amended by O. Reg 501/01)

**Appendix E**

**Minister's Requirement for Hazardous Waste Fees**



**Minister's Requirement for Hazardous Waste Fees**  
(See Section 18 of Regulation 347, as amended by O. Reg 501/01)

**Fee for Generator Registration Report**

1. The following fee is established for each Annual Generator Registration Report and Initial Generator Registration Report. The fee is the sum of:
  - (a) \$50;
  - (b) \$5 per manifest used during the calendar year in which the Report is submitted; and
  - (c) a sum calculated at the rate of \$10 per tonne of hazardous waste generated during the calendar year in which the Report is submitted.

**Rule**

2. The fee established in section 1. is subject to the following rules:
  - A. The fee set out in section 1. does not apply in respect of an Annual Generator Registration Report or Initial Generator Registration Report:
    - (a) for a waste generation facility which is an HHW waste depot operated by or exclusively for a municipality or the Crown and which report deals exclusively with HHW waste received at the facility;
    - (b) for a waste generation facility which is a contaminated site and which report deals exclusively with waste generated at the site as a result of activities carried on at the site for the purpose of remediating contaminated soil or other contaminated materials located on, in or under the site; or
    - (c) where the report deals exclusively with subject waste to which subsection 18 (12) of Regulation 347, R.R.O. 1990 applies [waste generated in unusual circumstances].
  - B. The fee set out in clause 1. (c) does not apply in respect of waste which is recycled at a recycling facility specified for purposes of this rule on the Ministry of the Environment website, [www.ene.gov.on.ca](http://www.ene.gov.on.ca).
  - C. Where the fee set out in clause 1. (c) has been paid by a generator in respect of a quantity of waste, the fee required by clause 1. (c) applicable to such waste, in the hands of any other generator, is zero. This rule also applies to waste derived from the original waste, but not to a quantity in excess of the original quantity.
  - D. The fee required by clause 1. (c) applicable to the following wastes is zero:
    - (a) waste mentioned in the definition of "subject waste" in Regulation 347, R.R.O. 1990, and described there as being not included as subject waste;
    - (b) subject waste from an HHW waste depot operated by or exclusively for a municipality or the Crown; or
    - (c) waste generated at a site as a result of activities carried on at the site for the purpose of remediating contaminated soil or other contaminated materials located on, in or under the site.
  - E. The fee set out in clause 1. (a) is not payable for submission of a supplementary Generator Registration Report. The following definitions apply for purposes of these rules:

"depot" means a waste disposal site to which the general public may bring specified types of waste and at which no processing or final disposal of the waste takes place;

"HHW waste" means domestic waste from a household that would be hazardous waste or liquid industrial waste if it were produced by a commercial or industrial generator or if it were produced in a larger quantity;

"HHW waste depot" means a depot where HHW waste is accepted, handled and temporarily stored.

**Minister's Requirement for Hazardous Waste Fees**  
(See Section 18 of Regulation 347, as amended by O. Reg 501/01)

**Manner of Payment**

3. The fee payment required along with submission of every report referred to in section 1. is:
- (a) the fee set out in clause 1. (a), and
  - (b) the fee estimated by the Director, based upon the activities of the generator in the current and previous calendar years, in respect of the fees set out in clauses 1. (b) and 1. (c).

**Periodic Payments**

4. Instead of payment pursuant to section 3. the Director may allow the making of periodic payments on such terms as the Director may specify in the Manual.

**Year-end Accounting**

5. As soon as possible after the end of each calendar year, when the matters are known, on the basis of which the fees mentioned in clause 3. (b) were estimated, the Director shall calculate the total amount of the fee for the year, and
- (a) where the fee which has been paid for the year is less than the calculated fee, the Director shall add the difference to the estimated fee for the next calendar year or may, by a notice in writing, require the generator to pay the difference forthwith; and
  - (b) where the fee which has been paid for the year is greater than the calculated fee, the Director shall deduct the difference from the estimated fee for the next calendar year or may arrange for repayment of such difference to the generator.

**Fee for Copies**

6. Upon payment of \$25.00, the Director shall provide any person with a written copy of the generator registration document in respect of any generator and waste generation facility.

Signed this 18th Day of December, 2001

"Elizabeth Witmer"

The Honourable Elizabeth Witmer Minister of the Environment

**Appendix F**

**Ministry of the Environment (Regional and District Offices)**

## Ministry of the Environment (Regional and District Offices)

For emergencies, please contact the Spills Action Centre at 1-800-268-6060

August 6, 2009

CENTRAL REGION	WEST CENTRAL REGION	SOUTHWESTERN REGION	EASTERN REGION	NORTHERN REGION
<b>Central Region Office</b> 5775 Yonge St., 8 <sup>th</sup> floor North York ON M2M 4J1 Toll free: 1-800-810-8048 Tel: (416) 326-6700 Fax: (416) 325-6345	<b>Hamilton Regional Office</b> 119 King St. W., 12 <sup>th</sup> floor Hamilton ON L8P 4Y7 Toll free: 1-800-668-4557 Tel: (905) 521-7640 Fax: (905) 521-7820	<b>Southwest Regional Office</b> 733 Exeter Road, 2 <sup>nd</sup> floor London ON N6E 1L3 Toll free number from area code 519: 1-800-265-7672 Tel: (519) 873-5000 Fax: (519) 873-5020	<b>Kingston Regional Office</b> 1259 Gardiners Road Kingston ON K7P 3J6 Toll free for area codes 613/705/905: 1-800-267-0974 Tel: (613) 549-4000 Fax: (613) 548-6908	<b>Thunder Bay Regional Office</b> 435 James St. S. Suite 331, 3 <sup>rd</sup> floor Thunder Bay ON P7E 6S7 Toll free from area codes 705/807: 1-800-875-7772 Tel: (807) 475-1205 Fax: (807) 475-1754
<b>Toronto District Office</b> 5775 Yonge St., 8 <sup>th</sup> floor North York ON M2M 4J1 Toll free: 1-800-810-8048 Tel: (416) 326-6700 Fax: (416) 325-6346	<b>Hamilton District Office</b> 119 King St. W., 9 <sup>th</sup> floor Hamilton ON L8P 4Y7 Toll free: 1-800-668-4557 Tel: (905) 521-7650 Fax: (905) 521-7806	<b>London District Office</b> 733 Exeter Road, 2 <sup>nd</sup> floor London ON N6E 1L3 Toll free number from area code 519: 1-800-265-7672 Tel: (519) 873-5000 Fax: (519) 873-5020	<b>Kingston District Office</b> 1259 Gardiners Road Kingston ON K7P 3J6 Toll free for area codes 613/705/905: 1-800-267-0974 Tel: (613) 549-4000 Fax: (613) 548-6920	<b>Sudbury District Office</b> 199 Larch St. Suite 1201 Sudbury ON P3E 5P9 Toll free from area codes 705/807: 1-800-890-8516 Tel: (705) 564-3237 Fax: (705) 564-4180
<b>Halton-Peel District Office</b> 4145 North Service Rd Suite 300 Burlington ON L7L 6A3 Toll free: 1-800-335-5906 Tel: (905) 319-3847 Fax: (905) 319-9902	<b>Guelph District Office</b> 1 Stone Road W. Guelph ON N1G 4Y2 Toll free: 1-800-265-8658 Tel: (519) 826-4255 Fax: (519) 826-4286	<b>Sarnia District Office</b> 1094 London Road Sarnia ON N7S 1P1 Toll free: 1-800-387-7784 Tel: (519) 336-4030 Fax: (519) 336-4280	<b>Belleville Area Office</b> 345 College St. E. Belleville ON K8N 5S7 Toll free from area code 613: 1-800-860-2763 Tel: (613) 962-9208 Fax: (613) 962-6809	<b>Kenora Area Office</b> 808 Robertson St., 2 <sup>nd</sup> floor, Box 5150 Kenora ON P9N 3X9 Toll free from area code 807: 1-888-367-7622 Tel: (807) 468-2718 Fax: (807) 468-2735
<b>York-Durham District Office</b> 230 Westney Rd. S., 5 <sup>th</sup> floor Ajax ON L1S 7J5 Toll free: 1-800-376-4547 Tel: (905) 427-5600 Fax: (905) 427-5602	<b>Niagara District Office</b> 301 St. Paul St., 9 <sup>th</sup> floor St. Catharines ON L2R 7R4 Toll free: 1-800-263-1035 Tel: (905) 704-3900 Fax: (905) 704-4015	<b>Barrie District Office</b> 54 Cedar Pointe Dr. Unit 1201 Barrie ON L4N 5R7 Toll free: 1-800-890-8511 Tel: (705) 739-6441 Fax: (705) 739-6440	<b>Ottawa District Office</b> 2430 Don Reid Drive Ottawa ON K1H 1E1 Toll free: 1-800-860-2195 Tel: (613) 521-3450 Fax: (613) 521-5437	<b>Thunder Bay District Office</b> 435 James St. S. Suite 331, 3 <sup>rd</sup> floor Thunder Bay ON P7E 6E3 Toll free from area code 705/807: 1-800-875-7772 Tel: (807) 475-1205 Fax: (807) 475-1754
		<b>Windsor Area Office</b> 4510 Rhodes Drive Unit 620 Windsor ON N8W 5K5 Toll free number: 1-800-387-8826 Tel: (519) 948-1464 Fax: (519) 948-2396	<b>Cornwall Area Office</b> 113 Amelia St. Cornwall ON K6H 3P1 Toll free number for area code 613: 1-800-860-2760 Tel: (613) 933-7402 Fax: (613) 933-6402	<b>North Bay Area Office</b> 191 Booth Road Unit 16 & 17 North Bay P1A 4K3 Toll free: 1-800-609-5553 Tel: (705) 497-6865 Fax: (705) 497-6866
		<b>Owen Sound Area Office</b> 101 17 <sup>th</sup> Street E. Owen Sound ON N4K 0A5 Toll free number from area code 519: 1-800-265-3783 Tel: (519) 371-2901 Fax: (519) 371-2905	<b>Peterborough District Office</b> 300 Water Street, Robinson Place Peterborough ON K9J 8M5 Toll free from area codes 613/705/905: 1-800-558-0595 Tel: (705) 755-4300 Fax: (705) 755-4321	<b>Timmins District Office</b> Hwy 101 East P.O. Bag 3080 South Porcupine ON P0N 1H0 Toll free in area codes 705/807: 1-800-380-6615 Tel: (705) 235-1500 Fax: (705) 235-1520
				<b>Sault Ste Marie Area Office</b> 289 Bay Street, 3 <sup>rd</sup> floor Sault Ste. Marie ON P6A 1W7 Tel: 705-942-6354 Fax 705-942-6327

## Questions and Answers

### [Appendix G](#)

## Questions and Answers

## Questions and Answers

### General Questions – Regulation 347 and Generator Registration

#### Question 1.

*What do I need to do when LDR requirements affect for my waste and how do the requirements affect approved waste transfer and processing facilities?*

You need to either treat the wastes on site (this may require a C of A) to meet land disposal treatment requirements or arrange for the wastes to be treated by an approved waste management facility. You must complete the LDR notification form (Part 2B of your GRR) to reflect LDR requirements and the treatment status of your waste. You must also provide notification to the waste receiver either before or at the time of the delivery of the first shipment of waste, once it becomes subject to the land disposal treatment requirements.

A facility that handles hazardous wastes may have to make changes to comply with the LDR requirements, depending on the types of wastes that it handles and the types of activities that it conducts. Due to the restrictions on mixing, blending, bulking or other intermingling of hazardous waste with other waste or material, waste management facilities that conduct these activities (e.g., processing that is not dilution) may need to amend their C of A — either to clarify the existing wording for the activities to ensure that they are covered, or to obtain approval if they are currently not approved to conduct these activities. These changes will also provide clarity for such facilities when they provide guidance to waste generation facilities that are planning to mix LDR wastes on-site, but must do so in accordance with the waste receiver's C of A.

All waste management facilities that receive and transfer or process LDR wastes also have additional administrative requirements. For example, waste receiving facilities must receive LDR notification forms before they accept LDR wastes for handling. Moreover, the generator registration and LDR notification requirements must be complied with for all LDR wastes that are shipped from a facility for subsequent management. The regulation also requires processors of LDR wastes to maintain a waste analysis plan.

In addition, the regulation may make it desirable to build new treatment facilities or to expand existing facilities. In both cases, new approvals or amendments to existing approvals will be required.

#### Question 2.

*Are lab packs subject to LDR requirements?*

Lab packs that come from small quantity generators that meet the requirements of S. 80 of Regulation 347 (SQG exemption) are not subject to land disposal treatment requirements. Since the SQG exemption from the land disposal treatment requirements does not apply to acute hazardous waste chemicals or severely toxic wastes, these wastes cannot be included in the container and must be dealt with separately.

Generators that have wastes that are subject to land disposal treatment requirements but do not meet the requirements for SQGs, or that have acute hazardous waste chemicals or severely toxic wastes, can still package their wastes as lab packs. However, these lab-packed wastes are subject to all land disposal treatment requirements, including reporting of the hazardous waste number for **each** waste in the lab pack in the LDR notification form.

#### Question 3.

*How is the management and subsequent registration of waste derived from the management of “lab packs” at a Part V-approved waste management facility affected by the “mixture” and “derived-from” rules?*

In situations where a number of different wastes are being managed, it is often useful from an administrative standpoint to assume the worst likely hazardous waste characterization for all the wastes, and to manage a number of wastes as a single load. This situation arises frequently in laboratories during inventory clean-up, and lab packs are often used in this scenario. Lab packs involve the packing of individual wastes in their own

## Questions and Answers

separate containers that are put in a single larger container, and then managing the whole load using either the waste class of 148 (inorganic wastes) or 263 (organic wastes). The use of “lab packs” is not limited to laboratories.

When registering and shipping lab packs, the waste characterization chosen should represent the “worst” type of waste that is included in the lab pack (i.e., the first waste characterization identified when following the waste characterization flowchart, Figure 3.3). For example, a lab pack may contain individual containers of hazardous wastes with waste characterizations of I, B, C, T, and A. In this case, the lab packed waste would be registered with a waste characterization of “A” since this is the first waste characterization identified in the flowchart.

Lab packs received by a waste management facility may simply be transferred and shipped out in the same containers in which they arrived. In such situations, the outgoing lab pack should retain its original waste class and characterization.

The C of A of a waste management facility may allow lab packs to be emptied and the individual waste containers from inside the lab pack to be sorted according to their characterization. Contents from these individual containers could then be poured into larger storage containers for bulking purposes — for example, by pouring the contents of small containers of “I” wastes into a larger storage container that also contains “I” wastes. With this type of mixing, the contents of the larger storage container maintain an “I” characterization, despite the fact that the smaller containers of “I” waste originally came from a lab pack that had an “A” characterization.

Wastes that are packaged in a sealed container in accordance with the SQG provisions of the LDR program may also be lab packed. However, it should be noted that sealed containers from SQG that are to be land disposed cannot contain wastes with the characterizations “A” or “S.” In addition, liquids should not be included in sealed SQG containers that are being sent for land disposal. Generators, therefore, should segregate wastes that will be packaged in a sealed container for land disposal from wastes that are being managed in another way through a lab pack.

When handling sealed containers that are to be land disposed, waste management facilities should ensure that the containers are not registered with the waste characterizations “A” or “S,” since these wastes may not be included in sealed containers under the provisions of Section 80 of Regulation 347. Wastes that are received in sealed containers from SQGs and are subsequently unpacked at a waste management facility no longer meet the SQG provisions of the LDR program. Accordingly, these wastes become subject to the LDR program’s provisions when they are being land disposed.

### Question 4.

*I am currently a registered generator. Do I need to register immediately in the new year or can I ship my waste before I submit my annual registration?*

As a registered generator, you must submit a GRR each calendar year on or before February 15<sup>th</sup>. As a result, you can continue to transport your currently registered waste using your existing generator registration number until that date. Annual registration must be completed by February 15<sup>th</sup>. Moreover, you are still required to pay the manifest and tonnage fees associated with subject waste generated during the calendar year.

### Question 5.

*When am I required to register my waste – when it is initially generated, or before it is transferred? Do I need to register if I don’t ship any waste off-site during a calendar year?*

The requirement to register waste generated at a waste generation facility applies both prior to the waste’s transfer and annually, when the waste is produced on an on-going basis. When a waste is first generated, it must be registered before it is transferred. If the transfer does not take place immediately, the waste must be

## Questions and Answers

registered within three months after it has been produced, collected, handled or stored, and no later than the next annual registration period. If a waste continues to be generated but is transferred only every other year, for example, it must still be registered every year because it is being generated on an on-going basis. If a waste is produced, collected, handled or stored, but not transferred from the waste generation facility (i.e., because it is being managed on-site) it must also be registered annually.

Please note that if the waste is temporarily stored, the 90 day reporting requirement applies (see subsection 17.2 of Regulation 347).

### Question 6.

*I am currently registered for a hazardous waste with a leachate toxic (T) characterization. Upon analyzing a sample using the TCLP, I've determined that the waste is not hazardous. Can I remove the waste from my generator registration document?*

Information posted on the generator registration document should reflect the information you submitted to the Ministry on first registering. However, it is your responsibility to correct the information on your generator registration document whenever it is no longer accurate. If you have already registered for the year, you can submit a supplementary Generator Registration Report at any time during the year but it must be submitted within 15 days of a change from the information submitted. No additional fee is required. Once you have registered for the year, the base generator registration fee of \$50 cannot be waived. However, the manifest and tonnage components of the registration fee are based on activity during the year.

### Question 7.

*I have always managed my used oil as a liquid industrial waste (L). Do I have to pay the tonnage component of the fee for this waste?*

If your waste has a primary characterization of liquid industrial waste (L), then it is not a hazardous waste and the tonnage component of the fee does not apply. The manifest component, however, does apply to any manifested movement of the waste. As the waste generator, you are responsible for ensuring that the liquid industrial waste is actually non-hazardous. Liquid wastes, such as waste oil, may exhibit various hazardous characterizations, including leachate toxicity (T), since the TCLP applies to both liquid and solid wastes. For liquids with less than 0.5 per cent filterable solids, the liquid is considered the TCLP extract. If a liquid tests hazardous under the TCLP and is not otherwise exempt from generator registration requirements, it is subject to the tonnage component of the fee.

### Question 8.

*I generate hazardous waste but do not use manifests. I dispose of the waste on-site. Do I need to register and pay a generator registration fee?*

Yes. All generators of subject waste, including those that manage the waste through on-site disposal, must register annually and pay the associated fee. You are required to estimate the quantity of subject waste you expect to generate during the calendar year when you complete the generator registration process, and will be expected to report the actual quantity disposed on-site for the calendar year when you register the next year. You must also keep records for at least two years of the quantity, waste number and method of disposal used for each subject waste that you dispose on-site.

### Question 9.

*If I store my waste on-site, when do I need to have a C of A in order to continue storing this waste? How do I apply for a C of A for on-site storage?*



## Questions and Answers

A C of A is required for on-site storage of a subject waste for a period longer than 24 months. To apply for a C of A, please contact your local MOE district office. A list of offices can be found in Appendix F.

### **Registration of Wastes Affect by the LDR Program**

#### **Question 10.**

*LDR would apply to my waste if I disposed of it in Ontario, but it is being sent out of province for disposal. How do I register this waste?*

If you are shipping listed waste or characteristic waste out of the province, you must complete the LDR portion of generator registration and LDR notification requirements, unless the waste is destined for processing exclusively at a facility on the HWIN list of recycling facilities. This requirement ensures that information about the waste is transferred to the receiver of the waste in the event that the waste does not end up going to the intended out-of-province receiver, and could thus wind up being managed or disposed of in an Ontario facility.

#### **Question 11.**

*How do I determine if my current knowledge of my waste is sufficient for LDR waste characterization purposes and generator registration, or whether I should perform additional analysis?*

Generators are responsible for properly characterizing the wastes that they generate. If you generate a listed waste through a process that is similar to that described in the listing, or if you generate hazardous waste chemicals, additional analysis is probably not needed to characterize the waste and identify the required treatment. If you do not have enough analytical data on the presence and concentration of regulated constituents in the waste, you can either perform analytical testing or identify that all regulated constituents need to be addressed. If there is a difference between your process and the process identified in the appropriate listing for your waste, you should determine whether your waste exhibits any additional hazardous characteristics that would not have been present in the waste described in the listing.

If you generate a characteristic waste and the treatment standard indicates that Schedule 6 standards must be met, you should conduct additional analysis to identify the concentration of any additional regulated constituents listed in Schedule 6 that might be present at or above the treatment standards, based on the nature of the waste and the waste generation process.

#### **Question 12.**

*How do I determine if the LDR notification requirements apply to my waste?*

If you generate a listed waste or a characteristic waste, LDR requirements may apply. If you will be shipping subject waste off-site, the questionnaire provided in Appendix J (also in flowchart format in Figure 4.2) should be completed to identify whether registration as an LDR waste is required. If you are uncertain how the waste will be managed once it is shipped off-site, you must complete the LDR notification form and notify the receiver of the waste of the information contained in the form.

If you change from on-site to off-site treatment or *vice versa*, or the degree of on-site treatment has changed (e.g., from partial treatment to full treatment) you must update the LDR notification form to reflect this change. If you ship the waste off-site for treatment and the receiver changes, the GRR does not need to be updated, but you need to send the LDR notification form to the new receiver.

There are cases where registration of your waste as an LDR waste is not required; however, in such cases, other LDR requirements may apply. If you treat characteristic waste on-site to meet LDR standards, or if you meet

## Questions and Answers

SQG provisions (e.g., sealed container requirements in Section 80 of Regulation 347) and the waste will be land disposed, you should refer to section 5 of this manual to identify your LDR program requirements.

### Question 13.

*I treat characteristic waste on-site to remove the hazardous characteristic prior to land disposal. My treated waste contains regulated constituents from Schedule 6 that I will not be treating. When is this waste considered to be a subject waste, and what are my registration, manifesting and LDR requirements?*

A characteristic waste that has been treated in accordance to the LDR requirements, but contains regulated constituents that do not meet the Schedule 6 standards is not a subject waste until December 31, 2009, when the Schedule 6 standards take effect. Registration and manifesting of the treated waste is not required until that date, although the generator may choose to register the waste prior to that date.

Although the treated waste does not need to be registered until December 31, 2009, when it becomes a subject waste, the generator is required to prepare a **waste analysis plan** that deals with the treatment of the waste. The requirement to have a waste analysis plan took effect on August 31, 2007, for characteristic wastes in Schedule 5 that are identified in Schedule 13 (inorganic T wastes and C, I and R wastes). On December 31, 2009, when the land disposal treatment requirements for the remaining Schedule 5 wastes take effect, all generators that treat characteristic wastes that will be land disposed require a waste analysis plan.

**Notification to the receiver must also be provided** for treated wastes after the effective date of the relevant treatment requirement.

### Question 14.

*What is the difference between the small quantity exemptions that are part of the hazardous waste and liquid industrial waste definitions and the small quantity generator provisions that are part of the LDR program requirements?*

For many of the different types of hazardous waste (hazardous industrial waste, ignitable waste, corrosive waste, etc.), the province provides a small quantity exemption (SQE) that is identified in the definition of hazardous waste in Section 1 of Regulation 347 (please see also the flowchart explanations in section 3.3 of this manual). The SQE amounts are not hazardous wastes or liquid industrial wastes, but are still wastes and can be transported and properly disposed of without having to register these wastes. However, the small quantity exemptions are only valid if you generate less than the quantity specified in a one-month period, or if you never accumulate an amount that is equal to or more than the SQE amount on the site at any one time.

By contrast, the small quantity generator (SQG) provisions under the Land Disposal Restrictions (LDR) program are available to generators that produce a total of less than 100 kg of hazardous industrial waste (H), hazardous waste chemical (B) and characteristic waste (I, C, R, or T) in any month. and transport these wastes in sealed containers to be land disposed. These wastes are exempt from meeting the land disposal treatment requirements if the generator follows the container and labelling requirements identified in Section 80 of Regulation 347 (please see section 5.5.1 of this manual). Please note, however, that the SQG provisions cannot be used for hazardous waste that is acute hazardous waste chemical or severely toxic waste.

### Question 15.

*I currently manage my hazardous waste through land disposal. Once the LDR standards take effect, I intend to send my waste for incineration to meet the land disposal treatment requirements. However, waste sent for incineration is not considered land disposal. How do I register this waste, and do I have obligations with respect to the LDR program requirements?*

## Questions and Answers

Because incineration is considered to be final disposal in Ontario, waste that is sent to an incinerator is not subject to the LDR reporting and notification requirements at the waste generation facility. Therefore, although you may be sending your hazardous waste for incineration because it cannot be land disposed, you are not required to complete Part 2B of the GRR or notify the receiver that the waste is subject to the LDR requirements.

This provision applies only if the waste is not processed at an intermediate facility before being received for incineration at the incineration facility. If any processing is to occur at an intermediate facility, the waste must be registered at the waste generation facility as a waste that is affected by the LDR reporting requirements and LDR notification to the receiver is required. Also in this example, any hazardous waste generated through incineration is considered to be subject to the LDR requirements at this new point of generation (i.e., at the incineration facility) and the LDR reporting, notification and treatment requirements may apply at the incineration facility.

### Question 16.

*Is a new waste generated after mixing or processing more than one hazardous waste?*

#### Mixed Wastes

If a hazardous waste is mixed with any other waste or material, the mixed waste retains the characterizations of all the wastes in the mixture. If, for example, an LDR waste has been mixed under the terms of a C of A, all hazardous waste numbers and all regulated constituents that are present in each of the individual wastes that went into the mixed waste must be reported in Part 2B of the GRR for both listed wastes and characteristic wastes. For LDR wastes, it is therefore very important that the individual wastes be characterized at the original point of generation, prior to any mixing.

When registering wastes that have been mixed, the most appropriate waste class should be chosen when the mixed waste is being registered. Generally, this will be the waste class that best represents the bulk of the mixed waste stream (see section 3.7 of this manual on choosing waste classes). The primary characterization of the mixed waste is the first characterization you encounter that applies to the wastes in your mixture when you follow the waste characterization flowchart provided in Figure 3.3.

#### Processed Wastes

For processed wastes that are listed wastes, the treated waste and treatment residual always retain the characterizations of the wastes that entered the treatment process along with their associated hazardous waste numbers, unless a valid C of A specifies otherwise.

There are only two cases where treated waste or treatment residuals are considered to be a new point of generation that requires a new waste characterization after processing, and both of these cases are only for characteristic wastes. If the treated waste or residual is subject waste, it retains the initial waste characterization, unless a new characteristic (i.e., C, I, R or T) is created by the processing or there is a change in the treatability group. Treatability groups are aqueous wastes, non-aqueous wastes, and soils or debris, for which different treatment standards apply.

If there is a change in treatability group after the processing of a characteristic waste, the processed waste or residual is considered to be a new point of generation, and the newly generated waste must be characterized. In addition, if a new characteristic (i.e., C, I, R or T) is created through the processing of a characteristic waste, the processed waste or residual waste is considered to be a new point of generation and must be characterized at that point.

## Questions and Answers

It should be noted that Regulation 347 contains a specific provision for treated characteristic wastes where a regulated constituent becomes concentrated above the standard by the required treatment. In such cases, if a regulated constituent in the treated waste increases, further treatment is not required — provided that the concentration of the regulated constituent was below the numerical treatment standard before treatment (see subsection 79 (3) of Regulation 347 for details on this provision).

In the two cases for characteristic wastes identified above (i.e., a change in treatability group or a new characteristic as a result of processing), the characterization of each of the wastes that entered the treatment process is not carried through when the newly generated waste is being registered. For example, if an aqueous waste that is characteristic waste is treated and the residual is a non-aqueous waste (i.e., a new treatability group), it is considered to be a new point of generation, and the non-aqueous waste generated by the treatment process needs to be characterized. The non-aqueous waste needs to be registered and treated, if required, in accordance with the new characterization. The characterization of the aqueous waste that entered the treatment process is not carried through when registering the non-aqueous waste generated from the treatment.

### Question 17.

*How do you characterize residues that are generated at waste management facilities that are not considered land disposal (e.g., OWRA-approved facilities, facilities on the HWIN List of Recycling Facilities, incineration facilities, waste-derived fuel sites)?*

In Ontario, the management of wastes at certain facilities is not considered land disposal (e.g., OWRA-approved facilities, facilities on the HWIN List of Recycling Facilities, incineration facilities, waste-derived fuel sites) and for the purpose of the LDR program are considered to be a new point of generation for the residues. All the hazardous waste numbers of the wastes that enter these facilities are not carried through to the residues for LDR purposes since the original waste generators were not required to provide this information to the facilities (provided that the wastes were not processed before being received at these sites).

The residues from these facilities need to be characterized at the new point of generation and must meet the requirements of Regulation 347, including registering and meeting applicable treatment requirements for the newly characterized residues. If the wastes that are going for final disposal (i.e., incineration facility or waste derived fuel site) are a listed waste, then the waste residues remain a hazardous waste because of the derived-from rule and if land disposed, must be treated to meet the land disposal treatment requirements based on the hazardous waste characteristic exhibited by the residues and disposed of at a hazardous waste facility.

## LDR-Specific Questions

### Question 18.

*How does the LDR program affect my contaminated site remediation?*

Ontario has put in place various Acts, regulations and guidelines governing site remediation activities. The implementation of the LDR program does not change existing site remediation requirements. However, hazardous wastes that are generated from site remediation activities and are to be land disposed may be subject to the LDR requirements.

Land disposal treatment requirements do not apply to in-situ soils or force the excavation of contaminated soils. Existing provisions regarding on-site remedial activities remain in effect. Land disposal treatment requirements only apply once a decision is made to remove the soils from the remediation site, and if the soils are characterized as hazardous waste and are to be land disposed. Land disposal of soils that have been excavated from a site may include waste soils sent off-site to be land disposed or soils that will be permanently disposed at another on-site location unrelated to the area of the site remediation (e.g., on-site landfill).

## Questions and Answers

If the waste generated through site remediation activities meets the definitions of soil, soil mixture, debris or debris mixture, then alternate treatment standards available under the LDR program may apply to the waste.

### Question 19.

*Do Land Disposal Restrictions apply to a one-time accidental spill of hazardous waste?*

Yes. If the waste is hazardous (either listed or characteristic) and will be land disposed, the land disposal treatment requirements and all other LDR requirements apply.

LDR requirements include notification to the receiver of information about the waste before or at the time the waste is received at the receiving facility. The Ministry recognizes that meeting LDR notification requirements may not be feasible in the immediate response to a spill, particularly with respect to a comprehensive characterization of the waste and treatment that may be required. However, once the immediate threat from the spill has been addressed, the generator is responsible for the waste's characterization, and for providing the LDR notification to the receiver of the waste.

If the waste generated through a one-time accidental spill meets the definition of soil or soil mixture, alternate treatment standards available under the LDR program may apply.

### Question 20.

*Who is required to have a written plan (i.e., waste analysis plan), and does this include generators who treat their waste on-site?*

Anyone who processes LDR wastes must have a waste analysis plan. This includes:

- generators that treat LDR wastes on-site at the original waste generation facility
- waste management companies that treat LDR waste off-site
- facilities that conduct partial treatment of LDR waste
- facilities that conduct full treatment of LDR waste
- processors that treat characteristic waste to meet the land disposal treatment requirement for disposal at a non-hazardous waste facility, even if no subject waste is subsequently sent off-site for disposal.

### Question 21.

*I operate a non-hazardous waste landfill and will now receive notifications from generators that treat characteristic waste to meet LDR requirements. What are my record-keeping requirements with respect to notifications received for these wastes?*

The LDR program does not specify record-keeping requirements for the final disposal facilities that receive LDR wastes. You should therefore maintain such records in the same manner as the other records you maintain with respect to the waste, as required by regulation and/or through your C of A.

### Question 22.

*I have a waste that has a hazardous waste characterization that is in Schedules 10 through 13 and a hazardous waste characterization that is not in Schedules 10 through 13. What treatment requirements do I need to meet and when do they take effect?*

A waste that has hazardous waste characterizations that are in Schedules 10 through 13 and hazardous waste characterizations that are not in Schedules 10 through 13 is considered a mixed waste and the treatment requirements do not take effect until December 31, 2009. At that time, the waste must be treated to meet the land disposal treatment requirements for all regulated constituents for each hazardous waste characterizations prior to land disposal. Although the treatment requirements for this waste do not take effect until December 31,

***Registration Guidance Manual For Generators of Liquid Industrial and Hazardous Waste***

## Questions and Answers

2009, you will have to state that you generate waste that may need treatment to meet the land disposal treatment requirement beginning in the 2007 registration year. Also in 2009 and beyond you will need to provide additional information about this waste, or identify all the regulated constituents in the waste as part of your registration.

### Question 23.

*I process characteristic waste on-site to remove the characteristic before the waste is land disposed. When do I need to deal with the regulated constituents in Schedule 6?*

Until December 31, 2009, the treatment requirement generally requires only the removal of the hazardous characteristic. On or after December 31, 2009, all regulated constituents in Schedule 6 must also be treated to meet the land disposal treatment requirements.

Before implementation of the LDR program, characteristic wastes required treatment only if disposal was at a non-hazardous waste landfill. Once the land disposal treatment requirements for a characteristic waste take effect, the requirements must be met prior to land disposal, even if the waste will be sent for disposal at a hazardous waste landfill.

Additional registration requirements took effect during the 2007 registration year for all inorganic characteristic wastes that are listed in Schedule 13. Accordingly, some generators that treat characteristic wastes and have not previously been required to register may now have to register these wastes if the wastes will be land disposed. Please see Question 24 for more information on the registration requirements for characteristic wastes that are processed on-site.

Any facility that processes a characteristic waste on-site is required to have a waste analysis plan. This requirement takes effect when the relevant treatment standards take effect. Moreover, LDR notification requirements apply to any treated or untreated characteristic waste that is shipped off-site for land disposal, whether the waste is disposed at a non-hazardous waste or hazardous waste facility.

### Question 24.

*Do I need to register if I process characteristic waste on-site?*

If the decharacterized waste or residual will not be land disposed, there are no new requirements for registration. If the decharacterized waste or residual will be land disposed, you may now be required to register, although you did not have to register before the LDR program was implemented. The table below summarizes the registration requirements for generators that decharacterize their waste on-site.

On-site processing (characteristic removed)	Subsequent waste management	Registration requirements
Processed on-site Treatment residual is not subject waste	Not land disposed	<ul style="list-style-type: none"><li>• No registration required</li></ul>
Processed on-site Treatment residual is subject waste	Not land disposed	<ul style="list-style-type: none"><li>• Register treatment residual</li><li>• No LDR information required</li></ul>
Processed on-site No UHCs in treated waste Treatment residual is not subject waste	Land disposal	<ul style="list-style-type: none"><li>• No registration required, however:<ul style="list-style-type: none"><li>▪ If land disposed off-site generator has notification and waste analysis plan (WAP) requirements</li><li>▪ If land disposed on-site generator must be able to demonstrate that land disposal treatment requirements were met; WAP required</li></ul></li></ul>

## Questions and Answers

Processed on-site No UHCs in treated waste Treatment residual is subject waste	Land disposal of treated waste or further treatment and land disposal of treatment residual	<ul style="list-style-type: none"> <li>• Register individually each waste entering treatment process under on-site processing</li> <li>• Register treatment residual – Part 2B required if residual will be land disposed off-site</li> <li>• Registration of treated waste not required, however:             <ul style="list-style-type: none"> <li>▪ If off-site land disposal generator still has notification and WAP requirements</li> <li>▪ If on-site land disposal generator must be able to demonstrate that land disposal treatment requirements were met; WAP required</li> </ul> </li> </ul>
Processed on-site <ul style="list-style-type: none"> <li>• UHCs in treated waste</li> </ul> (This scenario does not apply until December 31, 2009)	Off-site treatment for UHCs and land disposal	<ul style="list-style-type: none"> <li>• Register individually each waste entering treatment process under on-site processing</li> <li>• Register treated waste – Part 2B required</li> <li>• If treatment residual is subject waste it also needs to be registered – Part 2B required if residual will be land disposed off-site</li> </ul>

As of August 31, 2007, characteristic wastes that are listed in Schedule 13 and will be land disposed must be registered in accordance with the table shown above. However, since the treatment requirements for the regulated constituents (UHCs) in Schedule 6 do not take effect until December 31, 2009, generators are not required to register decharacterized wastes that still contain UHCs until December 31, 2009. All remaining characteristic wastes listed in Schedule 5 must be registered in accordance with the above table as of December 31, 2009.

### Question 25.

*I send my hazardous waste for incineration. Do LDR program requirements apply to this waste?*

In Ontario, incineration is considered to be final disposal. Therefore, LDR reporting and notification requirements do not apply to the hazardous waste at the point of generation (i.e., the waste generation facility) provided that the waste will be wholly managed through incineration and the waste is not processed at another facility prior to being incinerated. If any processing of the waste takes place prior to its arrival at the incineration facility, the original waste generator must comply with all LDR requirements, including registration and notification requirements. Following incineration, the incineration facility must characterize the residue and determine whether LDR requirements apply, as the incineration facility is considered a new point of generation.

### Question 26.

*I currently have a C of A to landfarm hazardous waste and liquid industrial waste. How does the LDR program affect me?*

While the LDR program does not prohibit the use of landfarms, it does require that hazardous wastes applied to the land at these facilities meet the land disposal treatment requirements. Liquid industrial wastes are not affected by the LDR program. Hazardous wastes that meet the land disposal treatment requirements can be applied to the land in accordance with the landfarm C of A.

### Question 27.

*I have a leachate toxic waste with a hazardous waste number in the E100-series. This waste has a treatment requirement that indicates “best efforts to achieve (removal of the characteristic).” What happens if I can’t remove the characteristic?*

## Questions and Answers

If the characteristic of an E100-series waste cannot be removed, the waste may be land disposed, but the disposal must be at a hazardous waste landfill. When completing the LDR notification form, the processor must indicate that although the characteristic waste meets the treatment requirement (since best efforts were made), it must be disposed at a hazardous waste facility because the characteristic that makes the waste hazardous has not been removed.

### Question 28.

*I have a soil that is leachate toxic with a hazardous waste number in the E100-series (e.g., E-115, malathion). There is no standard in the UTS table (Schedule 6) for the constituent that makes the waste leachate toxic (e.g., malathion). What is the alternate treatment standard for this soil?*

If any other regulated constituents are present in the soil at more than 10 times the value listed in Schedule 6, those regulated constituents must be treated to meet the alternate treatment standards. Since the contaminant that caused the waste to be leachate toxic is not listed in Schedule 6, treatment for this constituent (e.g., malathion) is not required for the waste to be land disposed, although the waste must be disposed in a hazardous waste landfill. If the contaminant that caused the waste to be leachate toxic (e.g., malathion) is treated so that the waste is no longer leachate toxic, and any other regulated constituent is also treated accordingly, the soil may be disposed in a non-hazardous waste landfill.



## **Notice of the Storage of Subject Waste**

### **[Appendix H](#)**

## **Notice of the Storage of Subject Waste**

# Notice of the Storage of Subject Waste



Ministry of the Environment  
Ministère de l'Environnement

## Notice of the Storage of Subject Waste Avis de stockage de déchets visés

Revised Regulations of Ontario 1990, Regulation 347, Paragraph 3 of subsection 17.2  
Paragraphe 3 de l'article 17.2 du Règlement 347, R.R.O. 1990

<p>Paragraph 3 of subsection 17.2 of Regulation 347 states:</p> <p>The first time that subject waste is stored at the waste generation facility for more than 90 days, a notice must be given to the Regional Director, within five business days after the 90th day of storage, that, i. describes, as accurately as possible, the nature, amount and location of subject waste stored, or expected to be stored in the future, at the waste generation facility for more than 90 days, and ii. indicates how frequently subject waste is expected to be stored in the future at the waste generation facility for more than 90 days.</p> <p>Note: One form for each subject waste.</p>		<p>Voici ce qui est stipulé au paragraphe 3 de l'article 17.2 du Règlement 347 (traduction non officielle) :</p> <p>La première fois qu'un déchet visé est stocké durant plus de 90 jours aux installations du producteur de déchets, un avis doit être remis au directeur de la Direction régionale au plus tard cinq jours ouvrables après le 90<sup>e</sup> jour de stockage. Il doit y être décrit, aussi exactement que possible : i) la nature, la quantité et le lieu du déchet visé qui est stocké ou dont le stockage est prévu plus tard durant plus de 90 jours aux installations du producteur de déchets; ii) la fréquence à laquelle il est prévu que le déchet visé sera stocké durant plus de 90 jours aux installations du producteur de déchets.</p> <p>Nota : Il faut remettre un questionnaire pour chaque déchet visé.</p>	
1. Name of generator/ Nom du producteur de déchets		2. Generator No./ N° du producteur de déchets	
		ON	
3. Address / Adresse		4. Postal code / Code postal	
5. Name of contact person / Nom de la personne-ressource		6. Telephone / Téléphone	
7. Waste description / Description des déchets		8. Primary characteristic / Caractéristique principale	
		9. Waste Class / Catégorie de déchets	
Description of storage procedure and area / Description du mode de stockage et de l'aire de stockage			
10. Indicate container used / Récipients utilisés		Size / Contenance	
<input type="checkbox"/> Tanks / Réservoirs <input type="checkbox"/> Drums / Barils <input type="checkbox"/> Other / Autre			
11. Is waste stored in a secure area? / Les déchets sont-ils stockés en lieu sûr ?		No / Non	
12. Is the waste storage drum(s) / tank(s) labelled? / Les récipients (réservoirs, barils, etc.) sont-ils étiquetés ?		No / Non	
13. Will a leak or spill be contained? / Les fuites et les déversements pourraient-ils être contenus ?		No / Non	
14. Is the storage area/facility routinely inspected? / L'aire de stockage est-elle inspectée régulièrement ?		No / Non	
15. Reason for retention of the waste / Raison du stockage des déchets			
16. Will the amount of waste stored change over time? / La quantité stockée changera-t-elle ?			
<input type="checkbox"/> No / Non    Amount of waste stored / Quantité stockée _____ (kg)			
<input type="checkbox"/> Yes/ Oui    Anticipated accumulation rate / Taux d'accumulation prévu _____ (kg/month / kg/mois)    Maximum amount to be stored / Quantité maximale à être stockée _____ (kg)			
17. Anticipated manner of disposal of the waste? / Comment est-il prévu d'éliminer le déchet ?			
18. Anticipated time waste will be stored _____(months). / Durée prévue du stockage _____(mois)			
If the subject waste remains in storage for more than 24 months an application must be made to the Ministry for a Certificate of Approval. / Si le déchet visé est stocké durant plus de 24 mois, une demande doit être présentée au ministère dans le but d'obtenir un certificat d'autorisation.			
19. Do you have a contingency plan in the event of a spill? / Existe-t-il un plan d'urgence en cas de déversement ?			
<input type="checkbox"/> No / Non <input type="checkbox"/> Yes / Oui			
20. Signature of Company Official / Signature du représentant de l'entreprise		21. Date/ Date	

When completed, this form is to be submitted to the Director in your Region. / Faire parvenir le formulaire au directeur de la Direction régionale du ministère.

Central Region  
5775 Yonge St., 8th Floor  
North York, Ontario  
M2M 4J1

Northern Region  
432 James St. S, 3rd Floor  
Thunder Bay, Ontario  
P7C 5G6

West Central Region  
119 King St., 12th Floor  
Hamilton, Ontario  
L8P 4Y7

Eastern Region  
1259 Gardiners Rd.  
Kingston, Ontario  
K7P 3J6

Southwestern Region  
733 Exeter Road, 2<sup>nd</sup> Floor  
London, Ontario  
N6E 1L3

Direction régionale du Centre  
5775, rue Yonge, 8<sup>e</sup> étage  
North York (Ontario)  
M2M 4J1

Direction régionale du Nord  
432, rue James Sud, 3<sup>e</sup> étage  
Thunder Bay (Ontario)  
P7C 5G6

Direction régionale du Centre-Ouest  
119, rue King, 12<sup>e</sup> étage  
Hamilton (Ontario)  
L8P 4Y7

Direction régionale de l'Est  
1259 rue Gardiners  
Kingston (Ontario)  
K7P 3J6

Direction régionale du Sud-Ouest  
733, chemin Exeter, 2<sup>e</sup> étage  
London (Ontario)  
N6E 1L3

# **Generator Registration and Land Disposal Restrictions Reporting**

## **Appendix I**

# **Generator Registration and Land Disposal Restrictions Reporting**

# **Generator Registration and Land Disposal Restrictions Reporting**

## **Generator Registration**

Generators of waste streams that are subject to the land disposal restrictions (LDR) program are required to provide additional information during registration. Generators may need to conduct additional assessments for subject wastes potentially affected by the LDR requirements, to identify the presence of regulated constituents that may need treatment before land disposal.

With the implementation of the land disposal treatment requirements, it is mandatory for generators to provide additional information about the types of hazardous waste streams being registered. This provision includes generators that have treated characteristic wastes that no longer meet the definition of hazardous waste but, as of December 31, 2009, will be subject waste because the wastes do not meet the land disposal treatment requirements (see section 5.4.1.2 of this manual for information on characteristic wastes affected by the Schedule 6 treatment standards).

As of December 31, 2009, all listed and characteristic wastes have to meet the applicable land disposal treatment requirements identified in Schedules 1 through 3, and Schedule 5, before these wastes are land disposed. All generators of listed and characteristic wastes that will be shipped off-site, including treated characteristic wastes with regulated constituents that do not meet the Schedule 6 treatment standards, must determine for each waste stream being registered, whether the questionnaire (Part 2A) needs to be completed. Completion of the questionnaire (if required) will indicate to the generator whether additional information about the waste stream needs to be provided in Part 2B (LDR Notification Form) during registration.

Please see sections 4.1.2 and 4.1.3 of this manual for details about the information that is needed in Part 2A and Part 2B of the GRR. Please also see Appendix B for examples of GRRs and Part 2B forms.

## **Declaration of Wastes Subject to Land Disposal Restrictions**

### **Appendix J**

## **Declaration of Wastes Subject to Land Disposal Restrictions**

## **Declaration of Wastes Subject to Land Disposal Restrictions**

Part 2A of the GRR includes a series of questions that when answered, will help you determine if you are required to fill out Part 2B (note that these questions may appear in a different format if you complete a GRR on-line through HWIN – e.g., if you register a waste with a characterization of L, P or D through HWIN, you are not required to answer any of these questions):

### **Declaration of wastes subject to land disposal restrictions (see Figure 4.2 for flowchart format)**

- Is the primary characterization of this waste stream liquid industrial (L), PCB (D) or pathological (P)?

The LDR portion of GRR must be completed only for listed or characteristic hazardous waste, including waste that has been treated so that it is no longer hazardous. Liquid industrial (L), PCB (D) or pathological (P) wastes are not subject to LDR requirements.

If the answer to this question is Yes, Part 2B is not required for this waste stream.  
If the answer is No, proceed to the next question.

- Is this waste stream being shipped out of Ontario to any facility NOT listed in the HWIN List of “Recycling Facilities”?

LDR information must be provided for all listed and characteristic hazardous wastes even if they will be shipped out of Ontario for treatment or disposal.

If the answer to this question is Yes, Part 2B must be completed for this waste stream.  
If the answer is No, proceed to the next question.

- Does your waste stream require LDR treatment and you would like to go directly to the LDR requirements?

A generator may know that Part 2B needs to be filled out for the waste stream being registered and wishes to go directly to the LDR Notification Form without completing the questionnaire.

If the answer to this question is Yes, the generator goes directly to the LDR Notification Form to complete it. If the answer is No, proceed to the next question.

- Are you unsure of any applicable exemptions or where your waste stream will be managed?

If a generator is unaware of any applicable exemptions that may remove the need to complete Part 2B or where and how the waste is to be managed (e.g. whether it is to be land disposed), Part 2B needs to be completed.

If the answer to this question is Yes, the generator goes directly to the LDR Notification Form to complete it. If the answer is No, proceed to the next question.

- Is the primary characterization of your waste acute hazardous waste chemical (A) or severely toxic waste (S)?

If the answer is Yes, proceed to the next question as there is no exemption from LDR treatment standards for generators of small quantities of this waste stream.

If the answer is No, you must answer the second part of the question: does your facility qualify as a small quantity generator under S.80?

## **Declaration of Wastes Subject to Land Disposal Restrictions**

In order to qualify as a small quantity generator, the sum of all hazardous wastes with primary characterizations B, H, C, I, R, and T generated at your facility must be less than 100 kg/month and all conditions of Section 80 and the manual with respect to the disposal of SQG waste must be met (see section 5.5.1 of the manual).

If the answer to this question is Yes, you must provide an estimate of the total quantity of B, H, C, I, R & T hazardous wastes generated per month. Part 2B is not required for this waste stream.

If the answer is No, proceed to the next question.

- Is this waste stream Municipal Hazardous or Special Waste (MHSW formerly called household hazardous waste (HHW)) that is exempt under Section 81 of Regulation 347 or waste received at your transfer station that is a small quantity generator (SQG) waste in a sealed container that is exempt under Section 80 of Regulation 347?

This question is for MHSW depots and receiving facilities that may accept and transfer wastes that are exempt under Sections 80 and 81 of Regulation 347. In order for these wastes to remain exempt, the requirements of Sections 80 or 81 must continue to be met (see sections 5.5.1 and 5.5.2 of the manual). Most generators are not receiving facilities and will answer No to this question.

If the answer is Yes because the waste stream is MHSW that meets the S. 81 requirements, you must enter the C of A number of the MHSW depot that generated the waste. Part 2B is not required for this waste stream.

If the answer is Yes because the waste stream is SQG waste that meets the Section 80 requirements, no additional information is required. Part 2B is not required for this waste stream.

If the answer is No, proceed to the next question. The waste stream does not meet the requirements of either Sections 80 or 81.

- Will this waste stream be managed at a facility listed on the HWIN list of recycling facilities without being processed at another off-site facility prior to receipt at the facility on the HWIN list? (Note that you may answer “Yes” if the waste will be bulked with like wastes, but you must answer “No” if any processing of the waste will occur).

Part 2B is required ONLY if the waste will be processed at an intermediate facility prior to receipt at the facility on the HWIN list. The waste may be shipped via a transfer station where the waste may be bulked with other like wastes, but the waste must not be processed or mixed with any other waste or material at a transfer station prior to receipt at the facility on the HWIN list, unless the mixing is conducted in accordance with a C of A and the mixed waste will be wholly managed at the facility on the HWIN list.

If the answer to this question is Yes, you must provide the C of A number for the facility on the HWIN list that will receive the waste. Part 2B is not required for this waste stream.

Generators should note that there is a fee exemption for waste that is shipped to a facility listed on the HWIN list of recycling facilities that is on the Ministry of Environment HWIN website.

If the answer to this question is No, proceed to the next question. Your waste will not be managed at a facility on the HWIN list, or it will be processed prior to receipt at a facility on the HWIN list.

- Will this waste stream be managed at any of the following facilities in Ontario without being processed at another off-site facility prior to receipt at the facility listed below? (Note that you may answer “Yes” if the waste will be bulked with like wastes, but you must answer “No” if any processing of the waste will occur):

## Declaration of Wastes Subject to Land Disposal Restrictions

- OWRA-approved facility
- Incineration facility
- Waste-derived fuel site

Part 2B is required ONLY if the waste will be processed at an intermediate facility prior to receipt at one of the facilities listed above. The waste may be shipped via a transfer station where the waste may be bulked with other like wastes, but the waste must not be processed or mixed with any other waste or material at a transfer station prior to receipt at one of the facilities listed above, unless the mixing is conducted in accordance with a C of A and the mixed waste will be wholly managed at the identified receiving facility.

If the answer to this question is Yes, you must provide the C of A number for the facility that will manage the waste. Part 2B is not required for this waste stream.

If your waste will not be managed at any of these facilities, or it will be partially managed at one or more of these facilities, the answer to this question is No, and Part 2B must be completed for this waste stream.

- Do you have another waste stream to register?

If the answer is Yes, then another Part 2A needs to be completed for the waste stream. If the answer is NO, then the generator proceeds to Part 3 of the GRR.

If you are unsure of the answers to the questions in the questionnaire (i.e., you don't know how your waste will be managed once it is sent off-site), you must complete Part 2B of the GRR.

Your generator registration will not be complete until Part 2B has been completed for all listed and characteristic waste streams, including characteristic wastes that have been treated to meet LDR standards, unless your answers to the questions above indicate that Part 2B is not required.

Any transfer station or processing facility that receives wastes destined for an HWIN recycling, OWRA, waste-derived fuel or incineration facility also needs to make the declaration above when completing their GRR with respect to the intended destination for their waste.